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Sensing the Waterscape - Re-Assembling the Politics of Climate Change and Displacement in Bangkok, Thailand

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Sensing the Waterscape

Re-Assembling the Politics of Climate Change and Displacement in Bangkok, Thailand

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Image 0.1. Urban Waterscape. Khlong Lat Prao, Huay Kwang, Bangkok. Own Image.

Abstract

The effects of climate change on human society and urban metropolises in the Global South, such as Bangkok, have been widely discussed in academic and policy circles. In the last few decades, debates on climate change and displacement have particularly captured the attention of the media, policymakers and academics. So-called "climate refugees" have advanced as the "human face of climate change". Critically examining the literature on the relationship between climate change and displacement that either sees this relationship as deterministic (so-called Maximalist position) or complex (so-called Minimalist position), this dissertation seeks to reorient debates on climate change and displacement to consider the link between both compounds as an emerging assemblage. The dissertation argues that such a perspective allows for a more-than Western ontology, a nuanced engagement with urban spaces such as Bangkok, in which climate change and displacement begin to materialise and contribute to a political quest for open futures.

Within this emerging assemblage, affective forces, human and non-human actors, the urban materiality of a fragmented waterscape shapes and influences the politics of climate change and displacement. Through an intra-urban comparative research design that utilises a range of qualitative and ethnographic methods (e.g. participant observations, semi-structured interviews, walk-along interviews), the emerging heterogeneous urban climate change and displacement assemblage is investigated. In three empirical chapters, the dissertation attends to the historical fragmentation of Bangkok's waterscape and its connections to contemporary and future climate change and displacement; the 2011 inundation in which wide parts of the city were flooded, involving diverse topologies of displacement; and finally two urban struggles over the re-engineering of Bangkok's waterscape, in which the political contestations that are at stake within the climate change and displacement assemblage are analysed and compared.

The dissertation argues that through re-framing debates on climate change and migration through an assemblage approach, a more sensory, nuanced, and ultimately more complex understanding of the political nature of the relationship between climate change and displacement is advanced.

For a new generation of curious minds:

Janko & Mael, Rauha, Layla, Kalle and Laura

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Thank you.

ABBREVIATIONS

ACCRN	Asian Climate Change Resilience Network
BMA	Bangkok Metropolitan Administration
BTS	Bangkok Transport System (SkyTrain)
CBD	Central banking district
CODI	Community Organisation Development Institute, Thai social housing Institute (partially funded by the Thai government)
COP	Conference of Parties
FBO	Faith-based organisation
GIZ	German Development Cooperation (Deutsches Institut für Entwicklungszusammenarbeit)
IGO	Intergovernmental Organisation
IOM	International Organisation for Migration
JICA	Japan International Cooperation Agency
MENA	Middle East and North Africa Region
MONRE	Ministry of Natural Resources and the Environment (Thai National Ministry)
MRT	Metropolitan Rapid Transit (Metro)
NGO	Non-governmental organisation
OCHA	Office for the Coordination of Humanitarian Affairs
OECD	Organisation for Economic Co-Ordination and Development
ONEP	Office for National Environmental Policy
SEA	South East Asia
UNDP	United Nations Development Programme
UNEP	United Nations Environmental Programme
UNFCCC	United Nations Framework Convention on Climate Change
UNHCR	United Nations High Commissioner for Refugees

NOTE ON TRANSLITERATION OF THAI WORDS

As there are various excepted ways of transliteration between Thai and Western alphabets, this dissertation follows transliterations of names and places that are most widely used in English language publications. Thais are most commonly identified by their first names, and I have therefore followed this practice in the text whenever I had permission to include interviewees' first names.

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THAI GLOSSARY

Baht	Thai Currency
Farang	A common expression used in Thailand referring to a foreigner or non-Thai
Khlong	Historically, the word signified a way or path irrespective of whether the path was terrestrial or water based. Today the word khlong signifies a canal, irrespective of its use for e.g. transport or drainage
Siwilai	Thai transliteration of the term civilised, which now has become part of the Thai vocabulary but also refers to a distinct historical modernisation project
Soi	Smaller road, branching of the main streets
Thanon	Main street. In Bangkok, these main roads are often built on top of the older canal infrastructure
Trok	Small pedestrian lane, branching off from *sois* and often leading into dead ends and more secluded (sometimes informal) communities

THAI PLACE NAMES

Ayutthaya	Former Siamese capital (founded ca. 1350-1767), situated at the Chao Phraya River, approximately 85 kilometres north of present day Bangkok
Chao Phraya	River bisecting Bangkok, running north to south through Thailand
Huay Kwang	District in northern Bangkok
Khlong Bang Sue	Canal running through Huay Kwang, northern Bangkok
Khlong Lat Prao	Canal running through Huay Kwang, northern Bangkok
Khlong Sean Seab	Canal running through the CBD from the East to the western suburbs of Bangkok

Ko Rathanakosin	Bangkok's old city centre which was surrounded by protective moats, thus forming the shape of an island (ko = Thai for island). Today the old centre is frequented by tourists for the historical sites such as the grand palace and proximity to the Chao Phraya river
Krung Thep	Thai colloquial short name for Bangkok. Krung Thep translates as: City of Angels. The official name of the capital reads: *The city of angels, the great city, the residence of the Emerald Buddha, the impregnable city (of Ayutthaya) of God Indra, the grand capital of the world endowed with nine precious gems, the happy city, abounding in an enormous Royal Palace that resembles the heavenly abode where reigns the reincarnated god, a city given by Indra and built by Vishnukarn.*
Ratchadamnoen Avenue	"The Kings Walk", representative boulevard in the old part of Bangkok
Siam	Historical name for Thailand. Siam was re-named in 1939.

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CHAPTER 1
INTRODUCTION

1.1 EXPERIENCING CLIMATE CHANGE AND DISPLACEMENT IN BANGKOK

I'm sitting in a café in the Bangkok Arts and Culture Centre, waiting for Oat to meet me for an interview. Oat is a Chulalongkorn University graduate who supported his universities' flood relief efforts in 2011 when the outer districts of the Bangkok were inundated for several weeks. While I am stirring in my coffee mug, the monsoon rain pours down. Oat arrives almost an hour late. As he sits down at the table he smiles at me, no apologies needed for his lateness. By now I have been in Bangkok long enough to know that the monsoon washes away the need for explanations: when the city is immersed in the rain, the traffic slows down and eventually stops. I thank Oat for agreeing to participate in my PhD project and coming out to meet me despite the weather. And then we start talking about the big flood in 2011.

Oat begins to recall the events by reflecting on the political turmoil that year. The dissent between so-called "Red and Yellow Shirts" had barely died down and each political party focused on supporting their own constituencies during the flood. Oat and his friends felt disenchanted with the level of government support to poor communities at the city fringe and spurred into action. He draws me a map to show how they organised the logistics of their relief operation. They turned the Chulalongkorn campus into a provisional emergency camp to host families and even their pets from the suburbs. Oat starts beaming at some point during his story. He is re-living the experiences of that time, vividly describing me the endless flow of energy they all felt when they started to assemble care packages, built improvised toilets, raised funds to buy little rafts and boats, and swarmed out into the city to distribute these goods to the ones in need. Oat recalls how his beard grew all long and how untidy he looked during these weeks of relentless action, how it changed his body and his need of rest and sleep due to all the adrenalin. He proudly explains how they organised the myriad of tasks in little committees, calling for regular assemblies early in the morning and late at night to discuss how they could improve their efforts and to make sure that everyone got a say in how the operations should be run. For Oat, the flood was an intense period in which a very different kind of sociability, ethos of care and feelings of connectedness to one another emerged.

We turn to discuss the reasons for the unusually heavy flood that year. I wonder whether climate change had to do with it. Oat only shrugs his shoulders in response to this remark. "Climate change?" he asks. "Maybe". He adds: "Well… and I think infrastructure had to do with it. Our flood gates are old. You know, Bangkok used to have so many khlongs (canals) but they are mostly gone now. So there is more flooding. And also politics caused the flood. Everyone was fighting with each other before the flood. The government had some trouble giving orders. And also … well many people say that it was the goddess's doing. We angered her. So, many went to the temples during the flood to pray and make merit".

[Bangkok, November 2015, Research Diary Entry]

Oat was one of the many people I met during six months of fieldwork in Bangkok in 2015/2016, where I tried to learn more about the connection between displacement, climate change and urban-hydro relations. What animates this dissertation is an eagerness to better understand the complexities, ambiguities and subtle differences that shape how Bangkokians interact with the changing urban waterscape. Bangkok is frequently portrayed as being at risk of climate change, as the city is not only vulnerable to floods originating in the country's northern mountains but also to sea level rise and incremental subsistence due to ground water depletion (Marks, 2011). The Organisation for Economic Co-Ordination and Development (OECD) has thus ranked Bangkok as the seventh most vulnerable port city for coastal flooding, due to its low-lying position and proximity to the Gulf of Thailand (OECD, 2007; see also: World Bank, 2009; Bergquist, Daniere & Drummond, 2014, Marks, 2011).

The above diary entry encapsulates some of the issues I became intrigued with during my stay in Bangkok. My own experiences of travel disruptions by the monsoon and waiting patiently for Oat sensitised me to the mundaneness of micro-displacements and disruptions in Bangkok. Routinely, the city's traffic comes to a halt due to the rain, forcing people to find alternative routes and passages or other ways of coping with the temporal disruptions. While the monsoon patterns have shaped Bangkok's rhythm of life for centuries (McGrath, 2007), climate change is now said to have major impacts on the seasonal rain altering its duration and intensity (e.g. OECD, 2007; Marks, 2011; Bergquist, Daniere & Drummond, 2014).

Moreover, as Oat reports, major flooding events like the one in 2011 confront Bangkokians with a force that exceeds their ability to cope with environmental change individually. In 2011, unusually heavy rainfalls destroyed large parts of Thailand until the flood reached Bangkok in November that year. This flooding event was quickly associated with climate change, causing alterations within the regional monsoon cycles (Marks, 2011, 2015; Lertworawanich, 2012; Bergquist, Daniere & Drummond, 2014). More than 700 people died in the course of the events; the financial loss was calculated at 43 billion US$ (Lertworawanich, 2012, p. 875). The 2011 flood

was a major disruptive event that led to the displacement of thousands of people who had to seek shelter in emergency camps. Homes were destroyed, livelihoods lost. Several hundred people died during the inundation and the political conflict between "Red and Yellow shirts" flared up again (World Bank, 2012). And yet, Oat's recollection of the flood demonstrates that it was also a time where new ways of caring for each other emerged. In the exceptional state of the inundation new forms of sociability trumped previous divides. The causes of the flood, Oat moreover observed, are diverse, contested and entangled in wider webs of socio-political, cultural and material relations and meaning making. In the conversation with Oat, the divine anger of the goddess sits right next to the profane and ill-maintained infrastructure of the city. The successive urban transformation which turned most khlongs (canals) into roads furthermore speaks to the historical roots of current flooding problems in the Thai capital. The waterscape of the city – where water and concrete, cultural practices, tourist attractions, economic activities, financial speculations, transportation systems and the urban poor meet – are thus milieus of power, displacement and contested urban-nature relations in which the climate change and displacement relationship emerges. The heterogeneous elements that form the waterscape hence crucially shape the flow of water and people alike within the city. Climate change may or may not be another element within this complex puzzle of multiple causes and myriads of displacement effects.

1.2 CONCEPTUALISING CLIMATE CHANGE AND DISPLACEMENT

By attending to these entangled relations the dissertation engages with a particular set of literature that discusses the connection between climate change and displacement. Conceptualising the link between climate change and displacement tends to either follow a causal or complex reasoning. In particular the causal line of argumentation has found its way into both academic literature (Jacobs, J.L. 1988; Myers, 2001, Myers & Kent, 1995; Dupont & Pearman, 2007) and policy documents (UN Security Council Debate, 2007; European Parliament, 1999; European Commission, 2013) since the 1980s (Piguet et al. 2011; Piguet, 2013). Tolba and El-Hinnawi (1985) coined the term "environmental refugees" in a United Nations Environmental Programme (UNEP) publication to describe this phenomenon of displacement:

"Environmental refugees are defined as those people who have been forced to leave their traditional habitat, temporarily or permanently, because of marked environmental disruption (natural and/or triggered by people) that jeopardize their existence and/or seriously affected the quality of their life. By 'environmental disruption' in this definition is meant any physical, chemical and/or biological changes in the ecosystem (or resource base) that render it, temporarily or permanently, unsuitable to support human life" (Tolba & El-Hinnawi cited in Neuteleers, 2011, p. 230).

Tolba and El-Hinnawi's definition of environmental refugees has sparked fierce controversies across academic disciplines. Legal scholars rejected in particular the use of the term "refugee" to describe people displaced by the environment. Such terminology, they argue, is incompatible with the UN Refugee Convention, which excludes environmental reasons for claiming asylum (King, T. 2006; McAdam, 2009). However, even when placing the relationship between environmental change and displacement into a context of migration, rather than refuge, causal reasoning was criticised (Suhrke, 1994; Kibreab, 1997; Lonegran, 1998; Black, 2001). Migration scholars insist on the multi-causality of any migration decision (Suhrke, 1993, 1994; Black 2001). Migration, they argue, is always embedded in a web of socio-political, legal and cultural contexts where environmental change can hardly ever be singled out as the primary driver (Kibreab, 1997). Finally, it has also been argued that in times of climatic pressure, available resources to migrate are constrained, and climate change may indeed lead to a situation where many people are being "trapped" rather than displaced (e.g. Foresight, 2011).

While it has been readily acknowledged that the relation between climate change and migration can take a whole range of forms such as seasonal migration, internal, inter-regional or international movements (Lonegran, 1998), the scenarios of displacement that Oat described predominantly happened over much shorter spatio-temporal scales. People moved for example up from the ground flood of their houses to the first floor, waiting for the water to subside. Others went to shelters in the neighbouring city district or spent time with family members who lived in the inner city of Bangkok that remained dry. As such, neither the legal term "migration" nor "refuge" may suffice to name the relationship between climate change and displacement that emerged during the 2011 inundation. In fact, the very act of defining and naming the relationship between climate change and

displacement continues to be "essentially contested" (White, 2011, p. 20). In this dissertation both literatures that either use the terms migration or refugee is reviewed, keeping their original terminology. Given the complexities and apparent contradictions in naming the link between climate change and human mobility responses, this dissertation however proposes to call the encountered mobility responses (however small-scale and temporary) *displacement*.

This dissertation re-examines closely three sets of concerns pertinent to the above sketched debate on climate change and refuge/migration. First, the potential relation between climate change and displacement is seen as a fundamentally *political relationship* (Baldwin & Bettini, 2017). The politics involved in climate change and displacement have been addressed in various ways. Myers (1993, 2001, 2005) as well as Myers & Kent (1995) have foregrounded the need for decisive international action to prevent an emerging environmental exodus. Referring to environmental refugees as a "prominent international phenomenon" (Myers, 1993, p. 752), Myers locates the need for a political solution onto the international level. He (2001) in particular called for the United Nations High Commissioner for Refugees (UNHCR) to become active. Nuteleers (2011) further pursued the aim of raising awareness and an ethical commitment to the plight of people displaced by climate change. She explicitly differentiates between islanders of low lying atolls that are bound to become "pure climate refugees" because here we can "indicate those responsible for the displacement" (Nuteleers, 2011, p. 242). Calling for climate justice for the displaced, she emphasizes Western nations – as historical prime emitters and contributors to climate change- moral responsibility to find new homes and compensate for losses. Similarly, activists Conisbee and Simms (2003) as well as international law scholars Bierman and Boas (2010) and Docherty and Giannin (2009) propose setting up new "climate refugee conventions" or adding "environmental persecution" to the list of reasons to offer refuge. Behind such reasoning there seems to be a distributive logic of climate justice (Forsyth, 2013), where the question revolves around a fair distribution of rights and responsibilities (Bulkeley et al, 2013, p. 915).

However, post-colonial scholars have argued against such a perception of "justice" in so far as they insist that the discourse of "climate refugees" can

redirect fate away from impacted populations (Farbotko, 2010; Farbotko & Lazrus, 2012) Within their line of reasoning the political dimension of justice is seen in a participatory logic where marginalised communities are given a voice to articulate their visions of a future. Justice is thus not so much found in the fair distribution of risks but within the (participatory) procedures that lead to such distribution (Foresyth, 2013; Bulkeley et al., 2013).

This dissertation agrees with the predicament that the political within the relation between climate change and displacement revolves around the theme of justice (see also: Bettini, Nash & Gioli, 2016) yet, from the theoretical position this dissertation takes a slightly different understanding of "justice" is advanced. Taking climate change and displacement investigations to an urban site, for example, reveals how both the distributive and procedural approach to justice demands pre-existing communities to represent their demands. In a metropolis like Bangkok, for example, people with uncertain citizenship status (refugees, asylum seekers, irregular migrant workers) or politically marginalised communities (squatters, the "urban poor") may not be recognized as legitimate participants in political procedures or as benefactors of outcomes. Their complicated legal status (further enmeshed with racialised perceptions or prejudices) might erode the bases for a participatory justice as well as a compensational form of it. Without e.g. legal land titles compensation for loss and damage of property might be hard to demand. This point will be further developed in subsection 1.2 and throughout the dissertation's empirical chapters (4,5 and 6).

Second, this dissertation takes the view that the relationship between climate change and displacement is a crucially urban relationship (see also Tacoli, 2009; Foresight, 2011). So far the urban has been an understudied site in discussions on climate change and displacement. In particular in such literature that seeks to construct a link between climate change, mass displacement and conflict, cities tend to be seen as sites of chaos and insecurity (Myers, 2001, Dupont & Pearman, 2006). Crowded shanty towns and underserviced urban fringes are here perceived as dangerous breeding grounds for unrest. Literature that seeks to focus on a more positive understanding of the connection between climate change and (voluntary) migration, on the other hand, tends to sketch cities as potential safe havens where people can hope to rebuild their lives as urbanites, integrated into the

regional economies (Tacoli, 2009; Warner 2012). However, in the Foresight report one reads:

"Cities in low-income countries are a particular concern, and are faced with a 'double jeopardy' future. Cities are likely to grow in size, partly because of rural–urban migration trends, whilst also being increasingly threatened by global environmental change. These future threats will add to existing fragilities, whilst new urban migrants are, and will continue to be, particularly vulnerable" (Foresight Executive Summary, 2011, p.7).

This dissertation takes a lead from above quote to investigate how such continuous vulnerabilities within the urban might be manifest. While in particular rural-urban mobilities in countries of the Global South such as Thailand (also in connection to changing environments and natural disasters) are well researched (e.g. Rigg et al. 2008; Rigg & Salamanca, 2009, 2011; Promburom & Sakdapolrak, 2012; Palmgren, 2013), little scrutiny has been paid to the diversity of forms of displacement arising *within* the vastly unequal time-spaces that demarcate Southern metropolis. Possible scenarios of displacement in the context of disasters *away from* Bangkok (Myers, 2005) as well as *to* Bangkok (Promburom & Sakdapolrak, 2012) have been studied. This dissertation seeks to contribute to a more detailed investigation of how climate change and displacement are manifest *within* the city.

Third, the relationship between climate change and displacement is seen as slowly emerging and deeply embedded in socio-material contexts (e.g. Morrissey, 2012; Baldwin, 2014; Baldwin & Bettini, 2017). It is a relationship that is "in the making" so to speak, rather than a pre-determined link waiting to be actualised. Baldwin (2012) as well as Baldwin, Methmann and Rothe (2014) have thus dubbed the debate as being written in the "future conditional". This future conditional, however is radically unequal. Climate change in this context is a real "material circumstance" (Baldwin & Bettini, 2017, p. 2) that unfolds in radically diverse material alterations and rhythms. The sudden excess and gradual decline of available water, for example, plays a pivotal role in shaping both our imagination as well as experience of a climate change impacted future (Methmann & Rothe, 2014). Both catastrophic events such as floods or storm surges, as well as longer processes of desertification and decreasing rain fall symbolize climate change like no other environmental occurrences (Bunn, 2012). Water's paramount role in sustaining *all* life across the globe gives it such a particular status in thinking through human-nature

relations within a changing climate (Linton, 2010; Davies, M.I.J., 2014; Strang 2014). Through this deep embeddedness of water in our collective societies, this dissertation also turns to studying historical and contemporary hydro realities in Bangkok apart from future conditional scenarios of displacement. Such displacement, it is argued, already lurks within the corners of policy discourses, popular imaginations and news reports in a city like Bangkok and hinges upon Bangkokians past displacement experiences. The closer we examine the individual cases of displacement, the more we might realise the plurality of forms such displacement can take due to its inflection by an endless number of socio-political and historical relations (class, citizenship, race, to name just a few) (Baldwin & Bettini, 2017, p. 2).

1.3 ASSEMBLING OPEN FUTURES

Following from the perspective sketched above, this dissertation proposes to use an assemblage theory approach to analyse the emerging relations between climate change and displacement in Bangkok, Thailand. While "there is no single 'correct' way to deploy the term, nor does any one theoretical tradition or style hold an exclusive right to it" (McFarlane & Anderson, 2011, p. 124), this dissertation argues that a *vitalist* reading of the concept of assemblage is particularly useful (Bennett, 2005, 2010 a & b; Braidotti, 2011, 2013; Lancione, 2016). Chapter 2 develops this perspective in more detail.

Briefly, the term assemblage as coined by Gilles Deleuze and Félix Guattari can be applied to a range of entities, systems or relations (e.g. Venn, 2006; Marcus & Saka, 2006). Assemblage can be seen as an analytical tool to make sense of how relations between heterogeneous parts are put together or stabilised, e.g. historical political developments (Legg, 2009, 2011), urban life (Simone, 2010, 2011 b, c; McFarlane 2011), human-nature relations (Braun, 2005; Murray Li, 2007) and geo-politics (Dittmer, 2014)). While the concept of an assemblage addresses the processes of forging relations across heterogeneous elements, it also attends to the breaking up and disintegration of such relations (McFarlane & Anderson, 2011). These binary tendencies of coming together and breaking apart are described as phases of territorialisation and de-territorialisation (Parr, A. 2010, p. 69). In particular, when assemblages break down or disintegrate in phases of de-territorialisation, potential lines of flight can emerge. The lines can be perceived as unintended consequences, chance encounters, or mutations

where radically new possibilities of relations emerge (Lorraine, 2010; Blitz, 2011). Perceiving climate change and displacement as an assemblage hence has various consequences for the conceptualisation of the political, the urban, and the "not-quite-yet" dimension of the relations foregrounded in section 1.2.

First, thinking about climate change and displacement as an urban assemblage can draw on work by urban scholars that have already carved out a territory for assemblage thinking in urban studies (Dovey, 2010, 2012; McFarlane, 2011 a,b; Simone, 2010, 2011; Farias, 2011; Swanton, 2011 a,b,c; Watt, 2016; Dovey, Rao & Pafka, 2017). From such a perspective, the urban is seen as a multiplicity of interrelated worlds, rather than a site ordered along economic structures. Key aspects of such conceptualisations are the more-than-human forces generated in the built environment (Lancione, 2016). Urban climate change perceived through an assemblage lens thus reveals itself as a combination of gradually unfolding altered material compositions as well as abrupt ruptures by sudden weather extremes. Instead of thinking about urban climate change as a singular future conditional mega event, assemblage thinking contributes to a grounding of the emerging climate change and displacement assemblage within the sensory and affective experiences that circulate between bodies and the built environment (Anderson & Wylie, 2009; Gregg & Seigworth, 2010; Anderson, 2009; Anderson et al. 2012). Whereby, affect refers to non-cognitive ways of engaging, sensing and reacting towards the environment (Gregg & Seigworth, 2010, p. 1). In section 4.4.2, for example, embodied encounters with urban change and its climatic effects are seen as a force to animate people into action and into becoming involved in protecting certain urban milieus. Moreover, section 5.2.3 draws on the sensory experiences of a Bangkokian couple who relied on their olfactory sense to determine when to retreat from an urban flood.

Second, an assemblage perspective also has consequences for theorising the political (e.g. Bergen, 2010; Gilbert, 2010) and its connection to justice within discussions on climate change and displacement. A first attempt to rethink such politics can be found in a Blitz (2011) paper theorising climate change and displacement through the analytical categories of de- and re-territorialisation. He contends that after climate change physically de-territorialises inhabitable space and displaces people, a phase of re-territorialisation happens when displaced bodies re-assert themselves into

economies, societies and political communities (Blitz, 2011, p. 445). In particular within the phase of de-territorialisation, when things are dis-assembled, break free and potentially form lines of flight that can lead to new relations and unintended consequences, a space is opened up from which I propose to re-think what may be at stake politically in debates on climate justice. It is within these phases of de-territorialisation that we might find the potential to create open futures. With regard to claims of justice, what transpires here is a position in which open futures are seen as a period in which new practices of solidarity may emerge. What seems needed is a way of keeping open the possibility of change, of allowing things to actualise otherwise, and to build new alliances (e.g. Watt, 2016), solidarities (Turhan & Armiero, 2017), or gestures of generosity (Clark, 2005). This theoretical point will be further developed in section 2.2.3 and illustrated in chapter 5 and 6.

Finally, as assemblages are provisional and shape-shifting, the focus is on process and emergent qualities rather than on fixed, pre-defined socio-spatial patterns or categories (Anderson & McFarlane, 2011, p. 125). Legg writes that assemblage theory "force[s] the researcher to conceptually move from structures to relationships, from temporal stability to uncertain periods of emergence and heterogeneous multiplicities, resisting the siren call of final or stable states which are the foundations of classical social theory" (Legg, 2009, p. 238). For this project the notion of emergence and becoming are thus seen as a chance to give up the need for predefined categorization of displacement experiences as either "environmental migration" or "climate refugees". Section 5.3.3 for examples examines how displacement along the vertical axis of the city emerged as a "common sense" but often ignored form of ad hoc adaptation to the floods in 2011. Here, a fluid conceptualisation of "displacement" pairs up with an assemblage theory approach attentive to the material affordances of the built environment. Moreover, triggered by flooding events like the one in 2011, recent research on Bangkok's climate change vulnerability foregrounds the necessity to excavate the historical canal infrastructure (Thaitakoo & McGrath, 2010; Davivongs, Yokohari, & Hara, 2012). Yet, these waterways are now housing marginalised, poor communities in the capital (Archer, 2012; Storey, 2012). Measures to rehabilitate the previous flood protection are hence putting the homes and livelihoods of these communities at risk. Climate change can here be seen as both a discursive

trope and material reality to engage in widespread urban transformations. As such, these measures are signalling a veritable political conflict arising between the political interest to enhance flood resilience within the city and the desire of local people to stay put. The politics of climate change and displacement are here expressed within concrete struggles over particular urban sites.

1.4 RESEARCH AS EXPERIMENTATION

The growing interest in the connection between climate change and displacement has sparked a growth in empirical research seeking to both qualify and quantify expected future flows of people (Ionesco, Mokhnacheva & Gemenne, 2017). From arguably simplistic methods of correlating sea-level rise with expected coastal population growth (Myers, 1993, 2001; Myers & Kent, 1995), research now increasingly uses computer modelling and advanced statistical methods (Piguet, 2010; Ginnetti, 2015, p. 10; Entwisle et al. 2016). Hsiang et al. (2013), for example, have embarked on quantifying precisely the influence of climate change, conflict and related displacement. They explain their methodology as such:

"In an ideal experiment, we would observe two identical populations, change the climate of one, and observe whether this treatment leads to more or less conflict relative to the control conditions. Because the climate cannot be experimentally manipulated, researchers primarily rely on natural experiments in which a given population is compared to itself at different moments in time when it is exposed to different climatic conditions— conditions that are exogenously determined by the climate system. In this research design, a single population serves as both the control population (e.g., just before a change in climatic conditions) and the treatment population (e.g., just after a change in climatic conditions). Thus, inferences are based only on how a fixed population responds to different climatic conditions that vary over time, and time-series or longitudinal analysis is used to construct a credible estimate for the causal effect of climate on conflict. [...] If different locations in a sample exhibit different average levels of conflict—perhaps because of cultural, historical, political, economic, geographic, or institutional differences between the locations—this will be accounted for by the vector of location-specific constants m (commonly known as "fixed effects")" (Hsiang et al. 2013, p. 1235367-2 -1235367-3)

While the amount of data Hsiang et al. compiled within their calculations is truly impressive, there is something rather troubling in the way complex phenomena like "politics or culture" are understood as "location-specific constants". This way of reducing the complexity of what makes

societies is at the heart of what Hulme terms "climate reductionism" (2011, p. 247) within research on climate change and migration. Hulme defines such a reductionism as: "a form of analysis and prediction in which climate is first extracted from the matrix of interdependencies which shape human life within the physical world [...] [and] then elevated to the role of dominant predictor variable" (Hulme, 2011, p. 247). In short, rather than seeing both climate change and societies as open, co-evolving and dynamic systems, such a reductionist approach assumes a static and predictable perspective on collective human behaviour under predictable altered climatic conditions.

Through the chosen assemblage theory perspective, this dissertation proposes an empirical approach prone to experimentation that proceeds quite differently. Experimentation is here not seen as a project in which all but one variable is controlled, but as a strategy of exploring and unsettling previous assumptions (Lancione & McFarlane, 2016). Baugh writes about Deleuze's appreciation of experimentation as: "... an open-ended process that explores what's new and what's coming into being rather than something already experienced and known[;] experimentation is inseparable from innovation and discovery" (Baugh, 2005, p. 93). Interest in such experimental explorations of urban processes has been particularly pronounced in such research, which fosters a comparative approach to the urban (e.g. Robinson, 2011; McFarlane, 2010; Jacobs, J.M. 2012; Lancione & McFarlane, 2016). Following Lancione and McFarlane (2016, p. 3), this dissertation maintains that "comparison is thought of as a strategy to unsettle and destabilise knowledge and theory as it is produced in order to reconstruct and develop new lines of inquiry". McFarlane, Silver & Truelove (2016) have furthermore proposed to take into consideration the potential benefits of an intra-urban comparative (IUC) approach. Here an argument was made for attending to the potential knowledge creation enabled through the close observation of differences unfolding within various parts of the same city. Such an approach seems suitable for unpacking an iconic city like Bangkok and attending to the differences embedded in the fragmented waterscape of the capital.

This dissertation follows the call for an experimental IUC approach to generate a fresh perspective on the complexities of the emerging urban climate change and displacement assemblage. Ethnographic observations and semi-structured interviews are the two principal methods used within this

qualitative study. Both methods allow for attending to the unfolding of urban interactions, advocating for partial truths rather than for objectivity or neutrality, and are prone to an experimental search and discovery of what is "coming into being" (e.g. Hoggart et al., 2002; Pink, 2006; Crang & Cook, 2007). Three main sites along the urban waterscape within the city are explored as particularly relevant for making sense of the material and affective politics of the emerging climate change and displacement assemblage in Bangkok. Within 30 semi-structured interviews, further insights were gained from a wide range of people such as academics, environmental activists, artists, refugee and migrant advocates, people working for the Bangkok Metropolitan Administration (BMA) and the national government, as well as foreign development experts from the German Institute for Development Cooperation (GIZ).

1.5 AIMS, RESEARCH QUESTIONS AND CONTRIBUTION
Research aims

The dissertation works towards three related research aims:

1) The first aim is to reorient existing debates on the relationship between climate change and displacement into considering more closely the emerging socio-materiality of the relationship through the theoretical lens of an assemblage.

The first aim is supported by the vitalist ontology proposed within the theoretical framework of the dissertation. By perceiving matter as animated, self-organising and bearing the potential to unfold agentic force, a more nuanced understanding of the "material circumstance" (Baldwin & Bettini, 2017, p. 2) of climate change is advanced. Furthermore, by stressing that the relation between climate change and displacement is an emerging assemblage, a distinct temporal as well as situated, contextual reading of such changing relations is advanced.

2) The second aim of the dissertation is to foreground the specific urban dimension of the relationship between climate change and displacement. The urban as a complex, socio-material and political terrain has been hitherto underexplored in literature discussing both flows of so-called "climate migrants" and "climate refugees".

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Placing the emerging assemblage into the urban field aims to close a research gap that has arisen in both the literature thinking through the connection between climate change and refuge, and that perceiving climate change as related to migration. In both sets of literature, a conceptualisation of the urban as a terrain of multiple overlapping worlds, sensory experiences, political contestations and material juxtapositions is little articulated.

3) The third aim is to carve out a conceptual territory from which to better understand the politics circulating within the urban climate change and displacement assemblage. In particular, concerns about justice and its relation to open futures are seen as central to such politics.

The concept of assemblage used in the dissertation supports the goal of thinking through the politics at stake in climate change and displacement scenarios. Open (urban) climate futures can be perceived as a time-space in which justice can be perceived as an act of keeping the world open to possibility and change. Within open futures, there is always the potential for urban reinvention as well as experimentations. The opposite of such a future would then be found in technocratic planning, top-down decision-making, and the erosion of democratic rights and principles of deliberation. Crucially, aided by a vitalist assemblage approach thinking through "open futures", aims to develop a conceptualisation of justice that is potentially more-than-human.

Research questions

The research questions this dissertation poses are:

1) How can the concept of assemblage contribute to a more nuanced understanding of the politics involved in the link between climate change and displacement in Bangkok?
2) How can qualitative research methods contribute to an experimental engagement with the emerging urban climate change and displacement assemblage?
3) How do historical forces, affects and actors shape the urban context in which the climate change and displacement assemblage emerges?
4) How can assemblage thinking enrich our conceptualisation of urban displacement experienced in extreme weather events?

5) How do different urban struggles organise to articulate the affective and material politics of Bangkok's contested hydro-futures?

The first research question revolves around the usefulness of the particular theoretical approach used within this dissertation and seeks to clarify the advantages and potential shortcomings of the chosen approach. A sustained engagement with this research question will appear in chapter 2. The second research question was developed to aid reflections on the research design and methods chosen within the dissertation. Chapter 3 answers this question. Research question number three is addressed within the fourth chapter of this thesis. It attends to the context and milieu in which the climate change and displacement assemblage emerges. The fourth research question is tackled in chapter 5, and addresses climate change and displacement in Bangkok during the 2011 flood. The last research question (question number five) seeks to identify more closely the political strategies with which contested urban hydro-futures are met in Bangkok. By generating insights into such struggles, the thesis hopes to illustrate the importance of the urban as a terrain for contestation and potential to create open futures. Chapter 6 of this dissertation answers this final research question.

Research contribution

This dissertation seeks to contribute novel insights into climate change and displacement debates by carefully carving out a conceptual territory from which to explore the material and affective politics that circulate through the emerging urban climate change and displacement assemblage. The academic contribution of this dissertation consists in pushing existing climate change and displacement literature to consider three distinct aspects that so far have been scarcely addressed.

The first contribution lies in a re-evaluation on the material and affective environment in which climate change and displacement emerge. The contribution here is seen as opening up climate change and migration/refugee literature to a more careful examination of the non-human forces and presences that are entangled in the emerging relations. Such a focus can potentially contribute to a more-than-human as well as more-than-Western position from which to think through the relation between climate change and

displacement (see section 2.3.1). The research design and chosen methods further enhance such an experimental probing of the material and affective politics that underpin the emerging climate change and displacement assemblage and contribute to a (currently somewhat lacking) epistemological pluralism within the debate. As outlined with more precision in chapters 2 and 3, the break with more commonly used quantitative research methods in climate change and migration/refugee literature is a conscious attempt to carve out space to question academic knowledge production in the field and advocate for a potentially more critical approach to climate change and displacement research.

The second contribution consists of more closely considering the role of cities within climate change and displacement scenarios. As a growing proportion of people are living in cities now, it seems necessary to put urban spaces more firmly onto the agenda of climate change and displacement. Within the urban, the effects of climate change on possible displacement have been understudied so far. Placing the emerging climate change and displacement assemblage within a metropolis like Bangkok allows such research to evolve into a full-spectrum investigation into questions of citizenship, race, class relations, non-human forces, urban animal geographies, and historic transformations. As such, the dissertation contributes a novel way of thinking through the complexities of climate change and displacement.

Moreover, attending to an urban site further supports the political commitment of this dissertation and its contribution to thinking through and making visible the potential for open and just urban climate futures. As Hulme pointed out, "since it is at least possible – if not indeed likely – that human creativity, imagination, and ingenuity will create radically different social, cultural, and political worlds in the future than exist today, greater effort should be made to represent these possibilities in any analysis about the significance of future climate change" (2011, p. 266). As such, this dissertation can be seen as an attempt to inquire into such futures and contribute to our collective – more hopeful than apocalyptic – imaginations of climate change and displacement.

1.6 STRUCTURE OF DISSERTATION

Chapter 2 illustrates in more depth two dominant positions found within the climate change and displacement literature (the so-called Maximalist and Minimalist positions) and carefully explains on which grounds both conceptualisations are refuted. In particular, their incompatibility to the political project of searching for open climate futures is emphasised as a reason for developing an alternative conceptualisation. While the Maximalist position is seen as unhelpfully deterministic, the Minimalist position seems to be underpinned by neo-liberal and managerial logics from which the political tends to be reduced to concerns about top-down policy. The chapter thus opens up discussion on the relationship between climate change and displacement through the prism of an emerging assemblage. The concept of assemblage is seen as a key to unlock the affective, material and agentic properties of human and non-human actants that shape the relation between climate change and displacement within the urban, which have so far been largely absent from climate change and displacement literature.

Chapter 3 explains the qualitative research design of this dissertation. Drawing on emerging literature that explores the possibility of intra-urban comparison (rather than cross-city comparisons) (McFarlane, Silver & Truelove, 2016), the dissertation utilises ethnographic methods such as participant observation as well as interviews to attend to the diverse ways in which various communities and individuals make sense of and live with climate change and displacement in Bangkok. The chapter foregrounds the explorative and experimental nature of this type of empiricism. It also reflects extensively on the relation between assemblage theory and methodology. For example, the chapter explores the agentic capacities of modern technology, like the researcher's smart phone as a device to plug into the emerging climate change and displacement assemblage under investigation. The chapter also reflects on the various patterns of power that shape research in a city of the Global South. Moreover, the chapter acknowledges and reflects on the shortcomings and challenges encountered during research.

Chapter 4 answers the third research question by mapping a sensory urban-geo-hydro history of the city of Bangkok. The chapter attends to the slowly altering relations between human mobility and displacement and the urban waterscape. Successive waves of modernisation slowly de-

territorialised the importance of the *khlong* infrastructure and re-territorialised the abandoned streams as mere sewage and drainage facilities. Molar forces in form of the threat of colonisation during the second half of the 19th century and the molecular desires of the royal family to express their own *siwilai* (Thai transliteration of the term civilised) laid the foundation for further terrestrial development projects. Yet, the fluvial delta region, the soft and swampy Bangkok clay continue to frustrate the successive stratification projects, slowly but steadily undoing concrete infrastructures. The chapter finishes by pointing to the emerging struggles over employing more "green" infrastructure to improve the flood resilience of the city.

Chapter 5 addresses the second research question by making sense of the 2011 flood as an assemblage. The chapter charts two opposing tendencies of displacement that emerged within this flood-assemblage. Namely, tendencies that could be perceived as topological and tendencies that mark temporary lines of flight. While topologies of displacement reveal how certain relationships were deformed but in principle retained their functioning, lines of flight emerged when the flood de-territorialised such relations. Race, interspecies interactions and the urban-built environment itself were enrolled in both these tendencies. Importantly, the lines of flight that emerged during the flood offer a glimpse on what open urban futures could hold in store.

Chapter 6 revolves around research question number three. Here the intra-urban comparative approach is used to compare two distinct urban struggles playing out at Bangkok's waterscape, connected to the city's effort to flood-proof the city. Focusing on the tactics of an activist group on one hand and an urban poor community on the other, the chapter utilises the concept of a nomadic war machine to map the differences between the struggles. The political at stake within climate change and displacement scenarios is here seen as the meeting between molar forces of power and molecular flows of desire. While urban poor community representatives are bound up within tightly striated negotiations with municipality authorities, the activist groups fighting to protect the Chao Phraya River succeeded in creating temporary smooth spaces. Again, it is in these provisional moments that we can see open climate futures emerging.

Chapter 7 concludes this dissertation by reflecting both on the research aims, the research questions and contribution of this dissertation to the wider literature concerned with the link between climate change and displacement. Section 7.4 offers a further critical engagement with the shortcomings of this dissertation and 7.5 presents an outlook on future activities planned by the researcher.

CHAPTER 2
(RE)ASSEMBLING CLIMATE CHANGE AND DISPLACEMENT

2.1 INTRODUCTION

The interaction between environmental and non-environmental factors should be examined in a way that is contextually specific and historically relevant. Research would be suspicious of the idea that singular non-environmental factors might act in a uniform manner in different contexts. For example, it seems specious to suggest that the relationship between environmental stress and mobility will be invariant, despite the existence of other important variables like existing social conflicts. A contextual and historical approach queries issues of power, asking why particular relationships matter and how they came to be.
(Morrissey, 2012, p. 45)

The above quote is taken from Morrissey's (2012) outlined agenda for how research on climate change and displacement needs to broaden its scope and begin to focus more closely on the contextual, historical and political dimensions underpinning potential displacements in the time of climate change. After reviewing two dominant positions within climate change and displacement debates, the chapter develops an assemblage theory perspective that allows for conceptualising Morrissey's programmatic research shift and crucially adds a material and affective dimension to it.

Section 2.2 of this chapter reviews the most prolific literature revolving around the conceptualisation of the link between climate change and displacement. Here a range of literature is introduced and criticised that uses quite diverse terminologies such as "climate change induced migration", "climate refugees" or "climate migrants" to name the link between displacement and climate change. The contributions discussed were selected for their representativeness within the body of literature and not for their coherence in the use of terminology. In fact, the confusion about how to name the (potential) link between climate change and displacement still contributes to the essentially contested nature of the entire debate (White, 2011). Subsection 2.2.3 makes a proposition to reconsider the link between climate

change and displacement as neither causal nor complex, but rather as a relation that shares the features of an emerging *assemblage*.

This part addresses the first research question: How can the concept of assemblage contribute to a more nuanced understanding of the politics involved in the link between climate change and displacement in Bangkok? Section 2.3 first clarifies what type of assemblage thinking (a vitalist one) is deemed useful for this dissertation. It illustrates how such a theoretical vantage point is helpful to broaden (rather than narrow down) concerns about the connection between climate change and displacement. Such a theoretical stance allows for more-than-Western ontologies that inform human perceptions of their environment and opens room to think through the more-than-human implications that climate change and displacement have. This chapter argues that an assemblage approach allows for being attentive to the material and affective politics imbued within the connections forming around climate change and displacement. Finally, an assemblage approach can aid this thesis's particular geographic concern with urban places such as Bangkok, as "assemblage urbanism" (used here as shorthand to collect various contributions from the field of urban studies that uses the concept of assemblage) has already carved out a field of inquiry and associated concepts (e.g. de/re-territorialisation, molar/molecular, power/desire, milieu, smooth/striated space, lines of flight) which this dissertation will employ.

2.2 CONCEPTUALISING CLIMATE CHANGE AND DISPLACEMENT

This section reviews two prominent positions within climate change and displacement literature that tend to either place the link within the domain of refuge or migration. Both positions have sparked fierce controversies and the respective critiques are sketched subsequently. Finally, the section offers a new way of thinking through climate change and displacement as an emerging assemblage.

2.2.1 MAXIMALIST REASONING: THE CAUSAL LINK

Within academic research, the understanding that changing environments can lead to displacement of people is not necessarily new. In particular from a historical perspective, it appears as common-sense that changes in the environment have led to population movements. Archaeological studies have long suggested that environmental changes were primary reasons for large-scale human migration movements (e.g. Zhang et al. 2011). The Irish Potato

Famine and the large migration movements during the 1930s from the American Mid-Western states to California now serve as well-documented historical examples to attest to human vulnerability to environmental changes, portraying out-migration as tough but rational choices to cope with these environmental events (Gràda & O'Rourke, 1997; McLeman, 2006; McLeman & Smit, 2006).

Climate refugees as impeding international crisis

Scholars (Bates, 2002; Nuteleers, 2011; Morrissey, 2012; Piguet, 2013) repeatedly cite the 1985 UNEP publication quoted in the introduction of this dissertation as the origin of a renewed interest within global environmental policy discourses in the connection between environmental change and displacement. Continued discussions on various ecological crises around the globe such as acid rain or the devastating human-made Bhopal gas leak in India sustained academic and political interest in the topic from the 1980s onwards (Blitz, 2011, p. 437), as is evidenced in various high-level global policy publications. In 1990, the IPCC emphasised that climate change will have a massive effect on livelihoods and human mobility (Brown, O. 2008); and seven years after the original UNEP statement, the *World Environment Report of 1992* also added the dimension of climate change as a strong driving force behind e.g. sea level rise and desertification "resulting in millions of environmental refugees" (Tolba & El-Kholy, 1992, p. 72).

Within the academic sphere, J.L. Jacobs's research for the Worldwatch Institute (1988) and even more prolific writer Myers's (1993, 2001, 2005 as well as Myers & Kent, 1995) estimations of future "environmental refugees" are among the most frequently cited studies. Their contributions are often mentioned as representing a somewhat deterministic, so-called "Maximalist" position within the debate (Suhrke, 1993). Suhrke (1993, 1994) who coined this position as representing a Maximalist stance, brings attention particularly to the initial focus on putting forward estimated numbers of potential environmental refugees. Myers's and Myers and Kent's early, yet highly influential, perception of the topic renders the connection between climate change and displacement as a particular vision of an inevitable hydro-future. They assume that sealevel rise is easily predictable. They then correlate this increase in water level with the anticipated population growth in coastal

regions. Through this correlation they estimate the number of displaced people in the future. While Myers uses the term "environmental refugees", he sees global warming and related sea-level rise as the major cause for future displacement. Based on the assumption that little will be done to curb greenhouse gas emissions, Myers calculated that in 2050, Bangladesh might witness 15 million environmental refugees alone (Myers, 1993, p. 754).

Implied in his work is not only a specific vision of a hostile hydro-future in which water is likely to destroy wide parts of coastal areas, as Myers (2001) makes explicit reference to how he envisions such futures being governed: "We cannot continue to ignore environmental refugees simply because there is no institutionalised mode of dealing with them" (Myers, 2001, p. 612). Rather than waiting for "environmental refugees" to emerge, he puts the responsibility for acting upon his predictions and preventing future flows of displaced people into the hands of IGOs and Western governments, calling in particular on the UNHCR and UNDP to become active (ibid). Myers reiterates that "the issue of environmental refugees promises to rank as one of the foremost human crises of our times" (2001, p. 611) calling for a global response. Interestingly, little reference is made to individual nation states of the Global South and their potential role to play within this impeding crisis. Moreover, cities of the Global South primarily feature as sites of vulnerability. He foregrounds the different environmental factors that render Bangkok, for one, a model example of a site likely to experience severe climate change-induced hazards. The magnitude of people living in Bangkok combined with its geographic location in a low-lying delta region (app. 1 m above sea level) close to the Gulf of Thailand puts future life in the city at risk (Myers, 1993, p. 756). The devastating hydro-futures Myers predicts will see a wave of human exodus from the Thai capital. Aware of the complex hydrological challenges of the city, Myers acknowledges a further complication, pointing out that "because of groundwater pumping, Bangkok's subsidence rate is 13 cm a year" (ibid.). Bangkok is thus in a position of double vulnerability: while sea levels are rising, the city is slowly sinking, provoking an imagination of the city as a slowly sinking island.

Climate Refugees and National Security

Moreover, Myers's work sees a clear link between climate refugees and security issues: "Refugees would tend to crowd into settlement camps or shantytowns, which would become prime breeding grounds for crime, civil disorder, social upheaval, and violence of many sorts" (Myers, 1993, p. 759). Myers's calculations (and his earlier publications) fell on fertile ground within pre-existing security discussions. Homer-Dixon (1991) and diplomats such as Tickell (1989) propagated the causal link between climate change, displacement and insecurity. But also NGOs like Christian Aid (2007) and Friends of the Earth Australia (2007) later joined the voices concerned over a pending environmental and climate refugee crisis.

While interest in the link between environmental change and human mobility somewhat died down around the turn of the millennium - with migration scholars such as Black (2001) proposing that environmental migration was a mere "myth"- the increasing securitization of debates on climate change triggered its reappearance shortly afterwards (White, 2011; Trombetta 2014). Reuvney (2007) and Dupont and Pearman's (2006) work echoed the concerns expressed by Myers during the previous decade. Dupont and Pearman, for example, now emphasised that climate refugees "can impinge on the living space of others, widen existing ethnic and religious divides and add to environmental stress in a self-sustaining cycle of migration and instability" (Dupont & Pearman, 2006, p. 56). As such, their work also shows the emerging transition in terminology from "environmental" to "climate refugees" coinciding with the increased interest in climate change as a threat multiplier (Barnett, 2003; King, T. 2006; Kothari, 2014).

Outside of academia, such a perspective was proliferated by the 2006 Stern Review *The Economics of Climate Change* and the popular documentary film *An Inconvenient Truth* which both contributed to linking more explicitly environmental with social and economic concerns (Nicholson, 2014, p. 156). Anxieties about pending future flows of people thus echoed through the security departments of the Global North: From the Pentagon, to the UN Security Council and the EU Parliament, the topic was suddenly discussed (White, 2011; Bettini, 2013, 2014) and arguably found its most vivid representation in the 2010 "Climate Refugees" documentary by director by Michael P. Nash (for a critical engagement of the movie see: Baldwin, 2012). Politically, the rhetoric surrounding climate refugees or migrants enabled

Western security departments to re-invest in border security and made possible questionable political deals between the European Union and North African countries such as Morocco and Libya regarding stricter border policing (White, 2011).

2.2.1.1 Maximalist Reasoning and its' discontent

Despite the appeal of the Maximalist position to diverse national and international security institutions, it has been criticised from various angles. The three most important sets of critiques are first, a legal challenge to the refugee terminology; second, political resistance against Neo-Malthusian reasoning; and third, a post-colonial rebuttal of the climate refugee discourse. This section briefly sketches them in turn.

No place for climate refugees in international law

An important critique that has gained much currency in climate change and displacement debates was voiced by international law scholars, who pointed out that the current international refugee convention does not provide refugee status on grounds related to environmental or climate change (King, 2006; McAdam, 2009). The "Convention and Protocol Relating to the Status of Refugees" of the United Nations from the year 1951 puts forward a clear definition of "refugee" as someone who

"owing to a well-founded fear of being persecuted for reasons of race, religion, nationality, membership of a particular social group or political opinion, is outside the country of his nationality and is unable or, owing to such fear, is unwilling to avail himself of the protection of that country; or who not having a nationality and being outside the country of his former habitual residence as a result of such events, is unable or, owing to such fear, is unwilling to return" *(UNHCR, 1951, p. 14).*

NGO activists and lawyers Conisbee and Simms (2003) thus felt compelled to make a clear moral argument for expanding the convention and taking "environmental persecution" into account. They were motivated by a commitment to environmental justice, and by a logic of demanding that the most affected (developing) countries get compensation from (historical) prime emitters like Western nations to. Scholars like Biermann and Boas (2010) as well as Docherty and Giannini (2009) appeared sympathetic to such a position, by reflecting on the possibility of drafting new binding protection treaties. International climate change treaties were located as a possible

source of funding protection measures (Docherty & Giannini, 2009). However, current political ambitions for such new treaties are said to be rather low (Warner, 2012, p. 1074). One of the few examples involve Norway and Switzerland leading the so-called "Nansen Initiative", which concluded with a set of non-binding principles for the protection of people displaced by climate change across international borders in 2015. To date, this seems to be the highest-profile international effort to establish some form of soft law for people suffering displacement in the context of natural disasters and climate change (Kälin, 2012).

Resisting Neo-Malthusianism

Bettini (2013) has carefully demonstrated how the security-oriented focus within much of the literature on climate refugees follows an apocalyptic line of argumentation. Importantly, contributions like Christian Aid's *Rising Tide* or Myers' environmental refugee calculations feed into a position in which the apocalyptic inhibits a particular ontological plane (Bettini, 2013, p. 63). Stating that climate refugee discourses are apocalyptic does not mean that the discourse tends to be overstating or dramatising scientific facts, but rather that the apocalypse of climate change functions as a device to disrupt our present from an unimaginably worse future (Bettini, 2013, p. 64). The Maximalist reasoning depends on such bleak future outlooks to make claims over the necessity to put policies into action that seek to prevent the flows of potential climate refugees. (See for example Myers (2001, p. 612), who calls for political action to be taken despite the lack of an "institutionalised mode", or the political deals made between North Africa and Europe as discussed by White (2011)). Much of these proposed measures "… echo the Malthusian idea that ecological stresses, by worsening the pauper's conditions, foment migration and conflicts, the two seen as mutually reinforcing processes that feed an uncontrollable spiral" (Bettini, 2013, p. 66).

Together, the apocalyptic narrative and the Malthusian line of argumentation fuel debates on climate refugees with particular sets of anxieties. Hartmann (2010) in particular has linked this Malthusian reasoning within the context of climate change and refuge to earlier, colonial motifs and anxieties expressed within a common-sense-like narrative of how environmental degradation will affect population flows:

Drawing on old colonial stereotypes of destructive Third World peasants and herders, degradation narratives go something like this: population-pressure induced poverty makes Third World peasants degrade their environments by over-farming or over-grazing marginal lands. The ensuing soil depletion and desertification then lead them to migrate elsewhere as 'environmental refugees', either to other ecologically vulnerable rural areas where the vicious cycle is once again set in motion or to cities where they strain scarce resources and become a primary source of political instability (Hartmann, 2010, p. 234).

Following Bettini (2013) and Hartmann (2010) in their assessment that perceiving the link between climate change and displacement as a causal, almost inevitable link feeds into unhelpful anxieties and xenophobic sentiments, this dissertation rejects such a line of argument. Perceiving climate change and displacement as a deterministic link is not deemed useful for this dissertation's search for a more nuanced political appreciation of the relationship between climate change and displacement.

A post-colonial critique

A further objection against the Maximalist "climate refugee" discourse was voiced by post-colonial scholars condemning the collective victimization of affected populations. The critique voiced here explicitly foregrounds problematic politics involved in both the security-oriented conceptualisation of the deterministic link between climate change and displacement as well as the politics involved in the specific "climate refugee" terminology. Different authors demonstrate how Pacific islanders are portrayed as climate change victims in the media, academia and by NGOs (e.g. Friends of the Earth Australia). Carol Farbotko and Heather Lazrus warn that "dominant, global narratives about climate change, such as climate refugee discourses, can entrench vulnerable communities in inequitable power relations, redirecting their fate from their hands" (Farbotko & Lazrus, 2012, p. 382).

According to McNamara and Gibson, the rejection of the "climate refugee" category and the reassertion of the right to self-determination of the island nations highlight the different geopolitical visions for the future of these nations (McNamara & Gibson, 2009, p. 482). While Pacific ambassadors to the UN advocate for taking climate change mitigation seriously, advocating for the new category of "climate refugees" risks that within developed nations: "… the category of 'climate refugees' legitimises future visions of a climate change

affected world in which mass population mobility and loss of homelands are considered unfortunate, but acceptable 'solutions' to the problems of the social impacts of climate change" (McNamara & Gibson, 2009, p. 482).

Popular and academic accounts were accused of fictionalising island populations whose existence became reduced to functioning like the "canary in the coal mine" to alert the global public to become active on climate change (Farbotko, 2010). Particularly within Baldwin's analysis, we can see that the "climate refugee" functions as the racialised other (at times in the function of a passive victim, at other times as an impending threat to peace and stability) who rests in opposition to the environmental citizen of the Global North (Baldwin, 2012). His work also attends to the futurology of climate change by pointing out how racialised understandings of climate migrants not only stem from inherited colonial discourses continuously shaping our present, but how these images also serve to structure how we think about legitimate climate futures yet to come (Baldwin et al, 2014). This compelling critique shows how the Maximalist position and associated rhetoric of climate refugees is unfit to aid this dissertation's search for open futures.

2.2.2 CLIMATE CHANGE AND MIGRATION: A COMPLEX RELATIONSHIP

The most full-fledged engagement with the Maximalist position, however, came from a set of migration scholars who are often labelled as advocating for a so-called "Minimalist" position. Their central concern is to reconsider the nature of the link between climate change and human displacement as complex and multi-causal. Their preferred terminology replaces "climate refugees" with more careful wordings such as "climate migrants" or "climate change induced migration" (Surke, 1994; Black, 2001; Black, Kniveton & Schmidt-Verkerk, 2011).

Migration as multi-causal

Surke (1994) and Black (2001), for example, contributed their expertise from migration research by insisting on the multi-causality of migration decisions. They emphasise that environmental change - or climate change for that matter - are hardly ever the solitary reason for people to migrate, and moreover take issue with the idea that the environment could replace the economy as a singular "push factor" within theorising migration movements. Instead of determinist predictions, Kibreab (1997) talked about migration in sub-

Saharan Africa, pointing out that it is still primarily *a combination* of social, political, economic and environmental factors that leads to migration movements. These observations were grounded in first empirical case studies which have since seen a spectacular proliferation with research "hot spots" emerging in different regions of the Global South (e.g. sub-Saharan Africa, Pacific islands, Bangladesh, South East Asian coast lines)[1].

Lonegran (1998) concluded, with regard to the complexity of migration: "…drawing a linear, deterministic relationship between environmental degradation and migration (and security) is not only inappropriate, but impossible, despite the claims of some authors" (Lonegran, 1998, p. 6). As such, the paramount contribution of the research labelled as Minimalist was in highlighting the complexity (rather than causality) of the climate change and displacement relationship. This theorisation of complexity as found in Black, Kniveton, & Schmidt-Verkerk (2011) bears reference to ecosystem and complex systems theory. Rather than taking a particular nation state or any other *á priori* fixed geographic terrain as reference for assessing migration flows, wider systems of translocal migration networks become a reference point for investigating the relationship between climate change and migration (Baldwin, 2014).

The appreciation of complexity also sparked a search for more appropriate, nuanced and distinguishable terms and typologies of displacement within such systems. Bates's (2002) proposal to classify human types of migration in response to environmental change represents such an attempt. Disasters, she says, are most likely to trigger acute out-migration. This is irrespective of whether the disasters are "natural" (such as volcano eruptions that are natural and unintentional), "technological" (such as meltdowns that are anthropogenic and unintentional), or "unnatural" (such as urban floods that are natural but enhanced by human-built environments) (Bates, 2002, p. 470-71). Disasters are commonly seen as sudden onset events that need rapid response and often only trigger temporary forms of displacement (Kälin, 2010). They have gained much attention in climate change and migration research (Foresight, 2011; Ionesco, Mokhnacheva & Gemenne, 2017) as well as practice (e.g. the aforementioned Nansen

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[1] For a compilation of case studies on the topic visit the database maintained by the University of Neuchatal webpage: http://www2.unine.ch/geographie/page-27380_en.html.

Initiative). Bates also drew attention to forms of expropriation (e.g. in the form of development projects) and deterioration (in the form of pollution, climate change, or deforestation) (Bates, 2002, p. 470). In particular, the slowly unfolding events of deterioration may render people as "refugees" at some point with little hope of ever returning to their homes. Arguably, it is these events - which Walter Kälin has termed "slow onset events" (2010) - that are politically more challenging, as it becomes hard to draw a line between the complex stages of anticipatory out-migration or last resort refuge.

This re-interpretation of the link between climate change and displacement as complex was further developed within the influential *EACH-FOR* study (commissioned by the European Union), the widely shared topical *Foresight Report* review (commissioned by the UK government), and the *Where the Rain Falls* study (conducted by the United Nations University and CARE international). All of these case studies were fed back into the international policy community and have served to stir the discourse away from protection rights for "climate refugees" to managing impending flows of "climate migrants". These policy-driven studies and the momentum around the COP 15 in Copenhagen in 2009 were certainly contributing factors for raising international attention for the topic. Warner (2012) recalls that the topic of displacement and migration was brought on the agenda of the United Nations Framework Convention on Climate Change (UNFCCC) through lobbying by the Small Island States, which expressed concern about the impact of rising sea levels on their livelihoods and the humanitarian community (e.g. UNHCR, or the UN Office for the Coordination of Humanitarian Affairs (OCHA)). While the link between climate change and displacement was neither mentioned in the 2008 or 2009 Conference of Parties (COP) outcomes, it made it into the 2010 Cancun Outcome (Warner, 2012). The commitment was reiterated by the international community in the loss and damage section of the 2012 Doha Outcome (ibid.).

Despite the differences, a similar attention towards hydro-futures is shared within both Minimalist and Maximalist positions. The environmental focus in many of the Minimalist studies revolves around the absence of fresh water or excess in rain fall and sea-level rise, illustrating a climate future marked by either the hyper-absence or hyper-abundance of water (Ionesco,

Mokhnacheva & Gemenne, 2017). In fact, speculations about future water scenarios take such a dominant position within the research community that Chris Methman and Delf Rothe have summarised the debate as essentially being about "uncertain hydro-futures [that] link up with unpredictable flows [of climate migrants]" (Methman & Rothe, 2014, p. 173).

Migration as adaptation

Bates (2002) insists that whether one speaks about "environmental refugees or migrants" should be determined by the degree of choice people have on whether to move or stay put. While environmental refugees are left with no alternative, environmental migrants have a higher degree of influence in the decision to move away; as such, the distinction between the two categories should be seen as a continuous line between voluntary and involuntary. Furthermore, migration scholars have demonstrated that cross-border movements are usually the exception rather than the norm when people decide to relocate (e.g. Black, 2001; McLeman 2013). The scale of research consequently has shifted from trying to predict large-scale cross-border migration flows to thinking about rural-urban migration as the most likely scenario of potential future migration related to climate change.

Opposing Myers's prediction of out-migration from Bangkok, Tacoli writes: "In Thailand, one-third of all internal migration in the early 1990s was estimated to consist of temporary movement to Bangkok's metropolitan region during the dry season, when labour demand for agricultural work decreases" (Tacoli, 2009, p. 520). Climate change is said be able to further increase this trend. As such, cities' enduring attraction due to their larger labour markets is emphasised as a continuous factor making them attractive despite climate change. Geographically, it is now no longer the border of Western states that emerge as a relevant space for political negotiations of access (White, 2011); but instead, regional megacities appear as spaces in which climate change-induced migrants are most likely to find themselves in competition for access to labor markets and livelihoods (Tacoli, 2009; Foresight, 2011).

Research saw an explosion of such case studies. The recent *Atlas on Environmental Migration* commissioned by the IOM reveals: "[...] the number of publications produced on the topic has grown from around 10 per year in

the 1990s to nearly 10 times as many in the last few years, averaging almost 100 publications on migration and environment every year since 2008" (Ionesco, Mokhnacheva & Gemenne, 2017,, p. 10). Importantly, within these publications lies a noticeable shift in the perception of displacement caused by climate change away from a "desperate last resort measure" towards its notion as a valuable adaptation strategy (Black, Kniveton, & Schmidt-Verkerk, 2011) that can contribute to enhancing the resilience of local communities. Scheffran, Marmer and Sow (2012) and Tacoli (2009) draw on the concept of "migration as adaptation" and "resilience" to make sense of the potentially beneficial aspects of climate change-induced migration. (Note here the careful rewording from "climate refugee" to "climate change induced migration".)

Migration of individual family members is now proposed to be seen as a strategy for diversifying income, as a chance for learning, and as a possibility for the development of human capital through acquiring new skills while migrating (Warner, 2012). Climate change is here decisively brought into a complex relationship with migration (rather than displacement or refuge) and seen as an important political issue linking to questions of *national* development rather than *international* security. Climate change-induced migrants are seen as potential remittance senders and active drivers of local development, rather than as passive "climate refugees" (Bettini, 2014). As such, we can see how the Minimalist position has slowly facilitated perceiving climate change-related migration as forming an element of the "migration-development nexus", following a general trend within migration research that started in academic and policy discourses in the mid-2000s (Bettini, 2014; for an overview of the "migration-development nexus" see Nyberg-Sörensen et al., 2002).

Managing migrants and trapped populations

Such an approach can, for example, be seen in case studies on issues of flooding in Bangladesh (Kartiki, 2011; Islam et al., 2014) and water scarcity in Kenya (Ng'Ang'A, et al. 2016), which confirm that migration and related remittances are a valuable contribution for enhancing adaptation measures of remaining family members. However, these case studies add another level of analysis by clearly pointing out that climate change-induced migration can be *beneficial only* if the migration processes are facilitated and managed

appropriately by the state apparatus. Without such facilitation (e.g. in the form of assisted resettlement or cash transfers) migration may remain a "last resort" measure or be perceived as "distress migration" (Johnson & Krishnamurthy, 2010).

In fact, in some of the reports and studies – most famously in the UK Government Foresight report - the problem does not seem to be with climate migrants, but rather with "trapped or maladaptive populations" (Foresight, 2011, p. 118). In the Executive Summary, one can read: "Environmental change is equally likely to make migration less possible as more probable. This is because migration is expensive and requires forms of capital, yet populations who experience the impacts of environmental change may see a reduction in the very capital required to enable a move" (Foresight Executive Summary, 2011, p. 6). Within the full report, the possibility of having to manage trapped populations is then qualified as a severe challenge: "… people may also seek to exercise their 'right to stay' even where this is effectively foolhardy, and creates additional public health, security or other challenges for the state" (Foresight, 2011, p. 118).

It is not only the re-interpretation of climate change induced migration as an adaptive measure here but also the nation state that emerges as the political scale for managing the potentially problematic forms of "maladaptive migration", replacing Norman Myers's calls for international engagement. The evaluation of the phenomenon for societies is hence "scaled down" from perceiving it as an international concern with globally felt impacts (Maximalist position) towards a problem concerning countries of the Global South and/or development agencies assisting them more specifically (Minimalist position).

2.2.2.1 The Minimalist position and its discontent

The Minimalist position seems more open for an affirmative position towards migration. Rather than portraying people displaced by climate change as passive victims or a threat to peace and stability, here climate migrants are valued as important agents, capable of increasing local resilience. Yet, two important critiques with regard to this literature are foregrounded here. First, authors have pointed to the global neoliberal migration management agenda that seems to manifest itself in the policy discourses on climate migrants (Felli & Castree, 2012; Felli, 2013; Bettini, 2014; Methmann, 2014; Methmann & Rothe, 2014). Second, there is a growing concern with the equally neoliberal

ideology guiding the particular empiricism advocated for by Minimalist scholars (Hulme, 2011; Baldwin & Bettini, 2017).

Neoliberalism and managing climate migrants

Felli & Castree (2012) and Felli (2013) assess the recent shift in discourse from climate refugees to climate migrants within specific policy texts. Felli (2013) focuses on the role of the IOM in advocating for a more affirmative stance on migration as a viable practice of adaptation. While such a position marks a break with a perception of climate refugees as a failure of international climate change politics, he observes: "In the meantime, the meaning of adaptation to climate change itself has changed from a collective transformation of the environment to a transformation of the individual" (Felli, 2013, p. 339). Combined with the individualisation of adaptation, the discursive shift from refugees as passive victims to migrants is said to have caused a situation where climate migrants are now seen as a potential reserve labour pool (ibid. 347). As such, new policy initiatives that seek to govern climate migrants are characterised as a neoliberal intervention designed to ensure continuous supplies of labour despite a climate change-impacted future that harbours potential insecurities for capitalist modes of production (ibid. 348, see also: Bettini, 2014). Behind such a shift lies a crucial element of de-politicising the topic of climate migration that is found in the individualisation of adaptation:

> *The promotion of 'migration as adaptation' could actually signal a broader trend toward the neoliberalisation of adaptation to environmental change. No longer does adaptation refer to a collective, political, and social transformation of the external conditions; rather, it is a transformation of the individuals themselves to become more suitable to adaptation (Bettini, 2013, p. 350).*

Moreover, Nicholson (2014) and Ober (2014) have both pointed out that the anxiousness for developing proper climate migrant management schemes is rooted in the sedentary bias common to all states, as states have a wish to know, count and tax their population, thus preferring stasis over change. While this dissertation agrees with the Minimalist literature's insistence on the complexity of the relationship between climate change and migration, it is this de-politicising *motif* of individual adaptation rather than a search for just and collective climate futures that is seen as being at odds with

the aim of this dissertation. As W. Brown has recently argued with regard to the neoliberal contents underpinning climate migrant narratives, "neoliberalism also undercuts democratic practices, institutions and imaginaries" (Brown, W. 2017, p. 36). Hence, the Minimalist line of argumentation and its conceptualisation of what is at stake politically within climate change and displacement do not seem to suffice for the aims of this project.

Research Methods

Apart from the critique of translating a politics of migration into managerial, de-politicised concerns, a further political critique can be made regarding the surprising consensus on research methods that seemed to have formed around tools such as household surveys as well as advanced computer modelling in most Minimalist case studies. Although these quantitative methodological procedures are still limited due to the availability of robust, longitudinal migration and weather data, as Robert McLeman (2013) acknowledges, they dominate discussions within the research community. On country and regional scales, it is argued that accurate explanatory models have already been developed (ibid). Behind the supposed success in modelling future climate migrant flows rests a claim that an increase in global spending on data gathering is a "useful step forward in transforming discussion of future climate change migration from informed speculation to evidence-based policy-planning" (McLeman, 2013, p. 608).

Importantly, such a claim that empirical research will produce "evidence-based policy-planning" rather than "informed speculation" carries a particular truth claim that resembles what Harvey (1974) once critiqued in the context of population growth and scarcity. In his paper, Harvey critically examines the notion of ideology in research. He insists that the claim of empiricists at that time to produce research through strict empirical methods that would be "ethically neutral and ideology free is itself an ideological claim" (Harvey, 1974, p. 256). What lies at the heart of Harvey's position is a reflection on the power structures that enable and foster particular types of research and discourage others. Methods, in Harvey's analysis, play a paramount role in these power struggles as certain methodological

procedures have managed to assume a supposedly neutral and thus objective, impartial or "true" perspective on how reality really is.

Speaking even more closely to the point of quantitative modelling within climate change and displacement research, Hulme (2011) coined the expression "climate reductionism", referring to a situation in which climate advances as the only big "un-known" variable within the complex game of predicting climate futures. He points to the role methods play in such a development: "climate reductionism is driven by the hegemony exercised by the predictive natural sciences over contingent, imaginative, and humanistic accounts of social life and visions of the future" (Hulme, 2011, p. 245). Together, the papers by Harvey and Hulme form an important methodological critique to both the Maximalist and Minimalist literature. Returning to Harvey's (1974) insights, he insists that the ideological hegemony of "neutral, empirical facts" severely limits the questions being asked and the policies being formulated for the population-resource-nexus during the 1970s. His insights seem directly transferable to much of the current Minimalist research, as the dominant questions seem to revolve around quantifiable numbers of climate migrants who will move across municipal, regional or international borders. Wider socio-political and ethical questions (e.g. how can we foster equitable, democratic places for cohabitation) are at risk of being forgotten in this quest.

Table 2.1. summarises the reviewed literature so far. The table lists the key points of the described Minimalist and Maximalist positions and their conceptualisation of the connection between climate change and displacement:

	Maximalist	Minimalist
Conceptualisation (What is the link between climate change and mobility?)	Climate change and displacement stand in a causal relationship. Mobility in the context of climate change is thought of as a last resort, refuge or failure	Climate change and migration are thought of as a complex relationship. Mobility in the context of climate change is seen as a more voluntary option.
Critique	Malthusian and colonial underpinnings: The racialised "climate refugee" figure is either seen as passive victims or as threats to national	Neoliberal underpinnings: climate migrants need to be governed to harness their socio-economic potential for climate change adaptation. The

	security (e.g. Hartmann, 2010; Bettini, 2013)	burden of adaptation, however, is shifted onto the climate migrant (e.g. Felli & Castree,2012; Felli, 2013)
Method **(What are the key methods used?)**	Empirical research, meta-reviews	Empirical research, surveys, modelling, reviews
Political scale to govern climate change and displacement	Global institutions are sought out to address the impending climate refugee crisis	National governments of the Global South are encouraged to develop migration policies to manage predominantly internal migrant flows
Conceptualisation of Cities	Cities like Bangkok are key sites of concern as they may turn into hotspots of vulnerability, rendering thousands of people displaced	Cities like Bangkok are key sites for integrating rural-to-urban climate migrants into (trans)local economies
Conceptualisation of Nature	Uncertain hydro-futures will lead to the displacement of millions	Uncertain hydro-futures will lead to predominantly internal and regional migration (e.g. circular, temporary)
Key grey/policy literature	UN Security Council Debate (2007) Christian Aid: The Human Tide (2007)	Foresight (2011), Where the rain falls (2014), Atlas of Environmental migration (2016)
Key academic authors	Myers, 2001; Myers & Kent, 1995; Dupont & Pearman, 2006	Surhke, 1994; Black, 2001; Tacoli, 2009; Black, Kniveton & Schmidt-Verkerk, 2011

Table 2.1. Comparison of Maximalist and Minimalist position. Own table, based on literature review.

2.2.3 AN ALTERNATIVE CONCEPTUALISATION OF CLIMATE CHANGE AND DISPLACEMENT

As within academic debates, the Minimalist position is said to have gained hegemony (Bettini, 2014; Baldwin et al., 2014). It feels like research has reached a type of "plateau" with the above outlined Minimalist position. A plateau, as defined by the Oxford English Dictionary Online, is not only "an area of fairly level high ground" (certain "truths" have been established) but also refers to "a state of little or no change following a period of activity or progress" (these "truths" are defended over and over again to produce an evidence base for policies) (OED Online). In the introduction of Deleuze and Guattari's *A Thousand Plateaus*, however, one can find yet another, much more philosophical attempt to conceptualise a plateau, as Massumi writes:

"In Deleuze and Guattari, a plateau is reached when circumstances combine to bring an activity to a pitch of intensity [...] The heightening of energies is sustained long enough to leave a kind of afterimage of its dynamism that can be reactivated or injected into other activities, creating a fabric of intensive states between which any number of connecting routes could exist" (Massumi, 2013, p. xii-xiii).

The aim is to pick up this "afterimage" of the complexity of the relationship between climate change and migration and reactivate its dynamism to inject it into a very different kind of research. To be more precise, it is the notion of complexity which may signal a readiness for broadening inquiries of climate change and displacement into various directions (e.g. exploring more rigorously understudied sites; shifting the future-oriented notion to exploring other temporal intervals; examining more deeply the agentic capacities of individuals, ecologies and institutions bound up together in the web of relations that link climate change and displacement). This dissertation thus seeks to find out what other connecting routes could exist between climate change, displacement and the political that have scarcely been put on research maps and agendas before.

White (2011) offers a first attempt to retract from perceiving climate change and displacement as either a causal link or a complex relationship, describing it as a particular *phenomenon.* Carefully, he explains how both compounds of the phenomenon (What constitutes climate change? What types of human mobility?) remain essentially contested. Yet, despite the widespread and fierce debate around the phenomenon of climate change-induced migration (as he terms it), bears enough force to animate people to act in its anticipation with far reaching consequences. Perceiving climate change-induced migration as a phenomenon seems particularly suitable to White's task of untangling the ways in which climate change induced-migration is referenced within policymaking circles and documents. Yet, according to the Oxford English Dictionary Online, the notion of a phenomenon has two types of meaning that might be at odds with the aims of the dissertation. First, it describes "a fact or situation that is observed to exist or happen, especially one whose cause or explanation is in question". Second, it refers to a "remarkable person or thing" (OED Online). Perceiving climate change and migration as a phenomenon or fact, something that can be readily observed despite unsure causes, contradicts a more cautious position that aims to

explore the still uncharted and unexpected manifestations of such a link. More to the point, some of the displacements might be less readily observable, as they may appear along small, intra-urban settings that may escape measurements of displacement as rural-to-urban or across nation states. Finally, as something exceptional or "remarkable", thinking of climate change and displacement as a phenomenon might refer the connection back too easily to more apocalyptic visions of a shared climate future (see Bettini, 2013).

Baldwin (2014) proposes the term "relation" to make sense of the open-ended ways in which climate change and displacement relate to each other: "'relation' allows for us to talk about the phenomenon as comprised of any number of ontological forms, as complex, co-relational or even future-conditional, all of which are important but which avoid specific reference to determinism" (Baldwin, 2014, p. 518). Agreeing with the above position, - in particular with the clear rejection of any form of determinism as well as to the insistence of the relation involving "any number of ontological forms" - the dissertation builds on the notion of climate change and displacement as demarcating a particular form of *relation*. Thinking through climate change and migration as a relation may furthermore serve to keep open the space that fills the relation between climate change and migration to be invaded by the loosely connected elements that accelerate, condition or slow it down. As Baldwin has put it:

"Too many other factors – power, land tenure, labour markets, conflict and so forth – also account for migration decisions. At best, all we can do is speculate from existing social and geophysical knowledge that climate change will entail some deep geohistorical transformations in which human mobility will figure prominently. Anything more than this would be conjecture" (Baldwin, 2014, p. 517).

Rather than seeking to close down our understanding of what constitutes the relation between climate change and displacement by setting up specific categorizations of forced/voluntary or resilient/trapped populations, such a perspective serves as a way to experiment with inquiries into the political nature of climate change and displacement. As such it may foster an interest in more pluralistic and democratic positions from which to envision open climate futures (Baldwin, 2014, p. 525). Even more explicitly, Turhan and Armiero (2017) have linked such reasoning to the role of cities within climate change and displacement debates. They declare that we are

witnessing a "time where overlaps of mass migration flows, economic meltdown and global environmental crisis fuel authoritarian populist fire for an even bleaker future ridden by uncertainties on all fronts" (Turhan & Armiero, 2017, p. 2). They contend that against such surges of authoritarianism, one needs to turn to examples of radically experimental and hopeful spaces. They thus foreground the importance of examining so-called "rebel cities" like Naples, which has recently welcomed thousands of refugees despite the rise of local fascist movements (ibid. p. 2). Rebel cities are their chosen example to emphasise the possibility of creating veritable laboratories for articulating new and radical politics that focus for example on: "trans-border class solidarity that connects the locals and the newly arrived soon-to-be locals with the exploitation and resistance against it occurring simultaneously" (Turhan & Armiero, 2017, p. 3). Such moments of solidarity across (class, race, gender –but also human/non-human) divides are the source to re-imagine open, collective climate futures.

Rather than framing climate migrants as eventually forming part of a capitalist reserve army (Felli, 2013), such a political project seems to critically distance itself from a perspective where "newcomers" are supposed to integrate into supposedly perfectly functioning societies. Rather, trans-border class solidarity signals a political commitment in which both traditional and new parts of a population engage in the creation of new societies in which climate change needs to be tackled – among an endless variety of other socio-political issues. In other words, a curiosity for thinking of open futures within a climate change-impacted world does not stop at the borders of the nation state or the boundaries of the city in which a supposed climate migrant might settle, but keeps itself alive to explore the political projects emerging at these new sites where previously alien bodies meet. Given the insight that climate change is a "real, material circumstance" (Baldwin & Bettini, 2017, p.2) that involves alteration of life on earth in general – and not only human life – the dissertation seeks to expand on the notion of "relation" by proposing to think of climate change and displacement as an emerging *assemblage* (Bennett, 2005, DeLanda, 2006; Marcus & Saka, 2006; Legg, 2009, 2011; Anderson & McFarlane, 2011). The concept of an assemblage offers a particular set of analytical tools deemed useful to pick apart the formation, changes and preservation of the human and more-than-human heterogeneous relations

that are involved in the material, real circumstances in which climate change may lead to various forms of displacement.

2.3 ASSEMBLAGE THEORY FOR CLIMATE CHANGE AND DISPLACEMENT

In a very general way, we can understand an assemblage as the provisional coupling of heterogeneous elements (materials, humans, animals, statements, discourses, fluids, vegetation etc.) which in themselves are evolving, being history- and context-specific rather than characterised through particular essences (Bennett, 2005, DeLanda, 2006; Marcus & Saka, 2006; Legg, 2009, 2011; Anderson & McFarlane, 2011). The benefits of an assemblage perspective for this project are found precisely because the

> *"aim [of an assemblage approach] is not a totalization, a definitive*
> *tracing of limits, or a final theory of everything. It is rather an expansion*
> *of possibilities, an invention of new methods and new perspectives, an*
> *active 'entertainment' of things, feelings, ideas, and propositions that*
> *were previously unavailable to us" (Shaviro 2009, p. 148–9; quoted in*
> *Dewsbury, 2011, p. 149).*

Assemblage theory is perceived as a fruitful way to develop such an "active entertainment" of new ways of seeing, thinking and perceiving the connection between climate change and displacement in Bangkok. Drawing on Deleuze and Guattari's work, this dissertation does not claim to have mastered the breadth of their entire writing; the project is informed by selected reading from their co-authored work: *A Thousand Plateaus, Kafka – Towards a Minor Literature, Anti Oedipus* and Deleuze's *Spinoza* as well as the essay and interview collection *Desert Island* and in-depth readings of work produced by authors working in their tradition (e.g. Bignall, 2008, 2010; Braidotti, 2011, 2013; McFarlane, 2011 a, b; Murray-Li, 2007, 2014; Bennett, 2004, 2005, 2010 a & b; Braun, 2005, 2014; Saldanha, 2006; Swanton, 2010; Phillips, 2006; Legg, 2009, 2011).

2.3.1 ONTOLOGICAL COMMITMENTS, EPISTEMOLOGICAL CONSEQUENCES

This section clarifies the particular vitalist reading of the concept of assemblage this dissertation champions, and defends this reading of assemblage by highlighting how vitalism provides the key to develop the vocabulary necessary for both material and affective politics. Moreover, vitalism is seen as an ontological position broadly connective with non-

Western ways of perceiving the world. Subscribing to this ontological position then leads to direct epistemological consequences.

DeLanda (2006) sees the ontology of assemblage theory as part of the realist tradition, as he emphasises how both share a basic understanding that things exist in and of themselves without presupposing e.g. theoretical frameworks to their existence (Price-Robertson & Duff, 2016, p. 3). John Protevi (2009, 2013) emphasises a more science-based reading. He points out that assemblage thinking and complexity theory share a perception of life as emergent, unfolding and full of potentialities. Such an interpretation is particularly useful to enable an inter-disciplinary dialogue, blurring the dichotomy between social and natural sciences. Protevi thus highlights the connectivity between the concept of assemblage and neurosciences, ecosystems theory and computer sciences. Here an important connection with the sketched Minimalist position (see section 2.2.2) that sees climate change and displacement as a complex relationship might be drawn. Such a project is amicable and potentially useful to thinking through the complexity of climate change and displacement.

However, the dissertation follows authors who draw more substantially on the vitalist underpinnings of assemblage thinking (Braidotti, 2013; Bennett, 2005, 2010; Lancione, 2016). While their political projects differ (e.g. Braidotti is working towards a post-humanist feminist, whilst Lancione develops a critical perspective to think through urban marginality), it is their interest in situated politics, material potentialities and in particular epistemological pluralism that connect well to a search for open futures and the methodological critique (section 2.2.2.1) raised towards research on climate change and displacement.

2.3.1.1 (More than Western) Vitalism

A vitalist reading of assemblage theory begins with the perception that matter is both self-organising and animated (Braidotti, 2011, 2013). Bennett's (2005, 2010 a & b) vital (or "enchanted") materialism follows such a tradition of seeing materialism as neither deterministic nor mechanistic but inherently possessing a positive vitality (2005). In her analysis of a power blackout in North America (2005) she thus includes a detailed examination of the flows and ruptures of electric power, coming to the conclusion that to understand the blackout, one needs to appreciate the force of electricity alongside the

political actors and economic motivations to understand the complexity of the politics of modern infrastructure. Similarly, Strang's (2014) work on the force of water and its connectivity across time and space insists that materiality is steeped in affordances to change, unfold, and produce both difference and repetitions in the material word we inhabit. Braidotti (2013) demonstrates how such a vitalist ontology found its way into Deleuze and Guattari's thinking through their careful study of work by Baruch Spinoza. While Marx reading of Spinoza's work sees him as advocating for a theological monism, Gilles Deleuze emphasises a secular reading of his work (Braidotti, 2013, p. 61). Rather than positioning God as a source of a unifying and animated materiality, Deleuze and Guattari put life itself as a driving motor behind vital materialism (Braidotti, 2013, p. 61; see also Lancione, 2016, Bennett, 2010 b).

An attention towards matter, however, is not reducible to an attention to tangible objects, ground or physicality. Materiality unfolds across all elements and all their particular states and, as Anderson and Wylie (2009) observe, a vitalist perspective seeks to re-populate the social world with presences that are usually excluded from social analysis, such as material artefacts or non-humans (animals) that are commonly reduced to mere "objects" of study rather than being granted any agentic – let alone political – capacities (Braun & Whatmore, 2010; Bennett, 2010 b). A vitalist perspective therefore rejects not only the dualism between city-nature but also, and more fundamentally, the modern dichotomy of object/subject (Lancione, 2016). Bruno Latour thus coined the term "actant" to describe material configurations that can develop agentic agency, and Jane Bennett proposes to add "thing power" to a conceptual vocabulary to acknowledge the force of "things" in the world (Bennett, 2010). In this dissertation, the term actant is thus used to name forces to avoid a reproduction of subject/object dichotomies. Such a perspective therefore has profound implications for reconceptualising agency, one of social science's most important analytical categories: "Agency has been central to modern conceptions of politics since it is agents that are accredited with the power to bring about effective change in collective life. Both domestic and international relations have been conventionally understood in this way" (Coole, 2005, p. 124). There is a close connection between intention and causality that underpins this reading of agency. Moreover, as Coole remarks, it seems that these conventional accounts

of agency circulate between either "freedom versus determinism" (ibid., p. 125), where freedom relates to agency and determinism to structure. Inherent to the idea of agency is thus the bound, rational or sovereign subject that is capable of rational choices and determined actions to effect change in the world (Hardt, 2015). Rather than theorising agency through such a cause-and-effect model, a vitalist perspective of it is processual and thus interested in the socio-material constellations in which shared capacities unfold (Bennett, 2010 a).

Agency understood in vitalist terms can hence be imagined as a cascade of forces spilling over and mingling with others. Jane Bennett refers to agency as a "complex, mobile, and heteronomous enjoiner of forces" (Bennett, 2010, p. 33). However, agentic capacities are not equally distributed and shared among actors. Coole stresses this by saying: "individuals will acquire differential agentic capacities depending upon their situation" (Coole, 2005, p. 126) rather than subscribing to a view in which forces are evenly distributed properties of any body. De-centering human agency and allowing for "thing power" therefore does not negate that power is relational and unequal and that some bodies have greater leverage than others to effect change. De-centering the human does not write off critical attention towards inequality, but rather invites a reflection on the suppleness and mutuality of forces circulating through the social that often lack a clear, determinable or hegemonic "centre". Material politics thus take into account the force of non-human actants without erasing human agency altogether (Braidotti, 2011) nor proposing that all actants bear the same force and capacity to affect change (Bennett, 2005).

One such way of attending to material forces can be found in the concept of affect, which precisely refers to forces that circulate between bodies (Seigworth & Gregg, 2010, p. 1). It is from this vantage point that Deleuze and Guattari write:

> *"We know nothing of a body until we know what it can do, in other words, what its affects are, how they can or cannot enter into compositions with other affects, with the affects of another body, either to destroy that body or to be destroyed by it, either to exchange actions and passions with it or to join with it in composing a more powerful body" (Deleuze & Guattari, 2013, p. 300).*

Central to the differentiated capacity to act is hence the "power to be affected" (Hardt, 2015, p. 215). Deleuze and Guattari develop a differentiated vocabulary that treats forces and power differently (I will return to discussions on power later): "Force is not to be confused with power. Force arrives from outside to break constraints and open new vistas. Power builds walls" (Massumi, 2013; p. xi). Rather than focusing on intentional or cognitive ways of expressing power, a useful definition has been put forward by Seigworth and Gregg:

> *"Affect, at its most anthropomorphic, is the name we give to those forces—visceral forces beneath, alongside, or generally other than conscious knowing, vital forces insisting beyond emotion—that can serve to drive us toward movement, toward thought and extension, that can likewise suspend us (as if in neutral) across a barely registering accretion of force-relations, or that can even leave us overwhelmed by the world's apparent intractability" (2010, p. 1).*

Affects are thus inter-personal, circulating between bodies (human and non-human bodies alike). Hardt (2015) insists that a political project needs to take these forces into account. The task is to develop a sensitivity towards affective forces and cultivate relations of positive, activating affects that increase the relations one can enter.

Strang (2014) points to a certain ethical purchase that such a vitalist ontology can have. Acknowledging the agency of materials and the force of affect signals a deeper awareness that the "agency of others" (Strang, 2014, p. 141) also includes non-humans. Water, to return to its example, then is granted an ethical position outside of a capitalistic logic that prescribes seeing it as a resource only (ibid, see also: Linton, 2010 on indigenous communities in Alaska). This point resonates with Jane Bennett's (2010) idea that through the interconnection of the human/non-human world, to dismiss the power of one can potentially be harmful for the entire assemblage of relationships that mark our existence. Perceiving the relationship between climate change and migration from a vitalist standpoint means to think through expected alterations in e.g. the availability of water by appreciating its material capacity to flow, to freeze or to evaporate and how these capacities connect us – from molecular cell to vast ecosystems – to the earth and its inhabitants in seemingly endless and multi-scalar ways (Strang, 2014; Davies, M.I.J. 2014). Scholars working within a deleuzoguattarian vitalist tradition have repeatedly

highlighted the connectivity between such concepts as assemblage and non-Western traditions of thought (e.g. TallBear, 2015; Bogue, Chiu & Lee, 2014).

Bennett (2005), for example, points out that the ontology of assemblage thinking and the ancient Chinese concept of Chi' are both underpinned by a similar commitment to the emergence and self-organisation of matter and life itself. In Deleuze and Guattari's *A Thousand Plateaus*, some of the many sources the authors draw on are taken from classic and marginalised Asian philosophy and culture, revealing an interest and attentiveness towards theory creation beyond Western thought (Zhang, P. 2016). An interest in the connection between deleuzoguattarian and traditional Asian concepts is further evidenced by recent publications (McGrath 2007; Charosin-o-larn, 2012; Dovey 2006, Dovey & Polakit, 2006, 2012; Simone 2011 a) and the annual *International Deleuze Studies in Asia* conference series running in its 5th year in 2017. As Zhang (2016, p. 413) has stated clearly: "The message [of vitalism and zen principles] is to unburden, unblock life, to trace lines of flight, to get rid of hindrances so life can reach its utmost potential. As such, Deleuze and Zen both imply a positive sense of virtue". A vitalist reading of assemblage theory can thus contribute to a wider politico-ethical quest for fostering ontological and epistemological plurality beyond Western traditions. Moreover, it invites a search for open futures and lines of flight in which life can reach its full potential despite climate change, rather than assume a position in which life must necessary limited itself because of climate change.

2.3.1.2 Epistemological consequences

Such a vitalist perspective entails a certain break with the dominant positivist modes of knowledge production within climate change and displacement research (section 2.2.2.1). Rather than using surveys and modelling techniques, ethnographic research for example has already yielded a wealth of insights into how rural and indigenous communities in South East Asia and beyond experience climate change and negotiate displacement (e.g. Schuler, 2014; Seeger, 2014). Ethnographic literature produced on these communities, discussing their encounters with climate change in the Arctic, reveal a much more nuanced, qualitative perception of environmental change than commonly found in climate change and displacement research and may hold a further key to broaden political debates on open climate futures (Cruikshank,

2005; Sakakibara, 2008; Bravo, 2009; Marino, 2012; Ignatowski & Rosales, 2013).

Research has demonstrated how small fishing and reindeer herding communities are not seeing their livelihood threatened by the absolute decrease of snow and ice (solid water) but by the qualitative shifts within its material composition. Such qualitative shifts are putting at risk traditional fishing techniques (Ignatowski & Rosales, 2013), hunting and travelling routes (Bravo, 2009), settlements and housing constructions (Sakakibara, 2008), long before any out-migration or inundation of coastal villages becomes likely. These works furthermore demonstrate how the qualitative shifts within the ice sheets (its composition, texture, volume) as well as their altered temporal occurrences impact human and animal livelihoods and mobility practices - impacts that cannot be reduced to simply having more or less ice or water (see also: Rattenbury et al, 2009).

Importantly, climate change impacts are here understood as a threat to both human and animal habitats, reminding us that on a shared planet, it is not only human beings who are at risk of displacement (Cassidy, 2012). What is at stake in these research contributions is moreover an epistemological opposition between scientific measures of ice quantity and indigenous ways of knowing the ice and environment using other techniques (such as oral history or story telling) for making sense of and mediating the relationship between climate change and displacement (Bravo, 2009). Rather than reducing climate change to statistic modelling, perceiving environmental changes is here embedded within embodied knowledge, socio-cultural practices and attentiveness to the changing material composition of the immediate surroundings.

Linton (2010) has pointed out that drawing attention to such a contextual and situated way of knowing the environment – and specifically knowing water in his case study on Alaskan communities – is profoundly political, due to the long marginalisation of remote indigenous places. One way of embracing research for "open climate futures" (Baldwin et al. 2014) and for re-politicising the link between climate change and displacement can thus be found in lending an ear to such situated, albeit often marginalised, knowledge communities. Moreover, Arctic story-telling and beliefs in supernatural

existence, gestures towards a reading that sees the world as animated or enchanted with forces beyond narrowly defines human agency, linking to the vitalism previously discussed (Bravo, 2009). The protagonists of these stories are glaciers and spirits, reindeers and seals.

Sakakibara (2008) writes about the different forms of stories about supernatural beings encountered during fieldwork in Point Hope, northern Alaska. She observes how seemingly effortlessly, the spirits could take the shape of animals, people or "nature" within these stories, disregarding our neat division between the three categories in Western philosophy. Most interestingly, these supernatural forces themselves are fluid and shape-shifting in the same way as the Arctic environment is: "[…] fieldwork confirmed that the characteristics of the spirit beings have never been static. With their environment becoming more unpredictable, the Inupiat find themselves interacting with new spirit beings in their drowning home" (Sakakibara, 2008, p. 460). Thinking through the qualitative shifts within the material environment can strengthen an understanding in which philosophical examinations subject material reality to an equally radical reappraisal, as questions of subjectivity have experienced within the social sciences in general (Coole & Frost, 2010, p. 2), and as has been evident in critiques on "climate refugee" discourses (Farbotko, 2010; McNamara, 2007; McNamara & Gibson, 2009).

Moreover, the accounts from the Arctic discussed here slightly alter the "future conditionality" (Baldwin, 2013) of the climate change and displacement debates as well as the "apocalyptic" (Bettini, 2013) dimension it may take. In fact, the ethnographic accounts are paying attention to how local populations' mobility practices (herding, trade routes, fishing and hunting grounds) are already being altered. Thus these insights allow us to think through climate change and displacement as a relation that is in fact not only *already occurring* but furthermore expressed within *mundane, daily activities of travel and movement.* Qualitative shifts in the icy environment already alter the routes available to local populations, pointing to the fact that human life is mobile and displacement can also affect mobility practices alongside dwelling practices. This dissertation proposes that ethnographic work may thus serve as a way of observing and theorising the micro-displacements and their socio-

political consequences that may already occur in the research site (see chapter 3 for further methodological discussions).

2.3.2 CLIMATE CHANGE AND DISPLACEMENT AS AN URBAN ASSEMBLAGE

This section explores more rigorously how assemblage theory can help in conceptualising the urban milieu as a site where climate change and displacement may emerge.

In particular, debates within the *CITY* journal (2011, vol. 15 issues 2, 3-4, 5 and 6) as well as the German language journal *Sub\urban* (2014, vol. 2, issue 1) have shown how thinking the city through assemblage theory can offer new insights into "urban life itself" (Simone, 2011 c). Briefly, the argument advanced for applying such a theoretical position to studying urban affairs foregrounds three lines of argument.

First, assemblage thinking enhances the perception of cities as relational multiplicities rather than spaces that are embedded in stable (e.g. political economy) structures (McFarlane, 2011a; Farias, 2011; Ureta, 2014). Rather than investigating how e.g. unequal power relations shape urban housing conditions, an assemblage perspective invites a more attentive investigation on how particular forms of dwelling come into being, how they are made stable and how they change over time (McFarlane, 2011b; Ureta, 2014).

Second, and following from this, an assemblage perspective on urban spaces breaks with a view that powerful elites or capital structure urban life, but rather sees both power and agency as distributed throughout the various actants of the urban assemblage (Farias, 2011). Here the urban turns into a field of potentialities that emerge from human and non-human components, seeking their realisation (McFarlane, 2011, a). These actants, however, do not form a level playing field.

Thus, thirdly, assemblage theory seeks to offer new lines of inquiry to a critical urbanism (Watt, 2016). In fact, the very possibility for an assemblage to emerge "takes place in and through an ontology or grammar of power; a cosmos saturated by forces, defined by trials and tests, by becomings and encounters, capacities, articulations, enrolments and alliances" (Harrison, 2011, p. 158). As such, the contribution assemblage theory seeks to make to a

critical urbanism lies in the attentiveness and the careful mapping of these saturated cosmoses or grammars of power and force.

Important, however, is in particular the last claim that has received widespread criticism. Most vocal on the question of whether assemblage theory can support a critical urban inquiry were Brenner, Madden & Wachsmuth (2011). In their paper, they insist that "this approach offers no clear basis on which to understand how, when and why [...] some possibilities for reassemblage are actualised over and against others that are suppressed or excluded" (Brenner, Madden & Wachsmuth, 2011, p. 235). Furthermore, they explicitly take issue with the lack of commitment of assemblage theory towards investigating structural relations of political economy. They claim that assemblage theory falls into the trap of "naïve objectivism" through the detailed description of micro urban events and phenomena rather than taking a critical position towards an increasingly unequal urban political economy. Other authors have added a critique of assemblage urbanism being ridden by high degrees of unhelpful jargon (Storper & Scott, 2016).

Despite this criticism, this section sketches how perceiving the city as an assemblage can be made useful within the context of climate change and displacement. The argument here follows an outlined awareness that assemblage theory is broadly connective to non-Western ontologies, an argument that has found several ways of articulation within urban studies (Simone 2011 a; McCann, Roy & Ward, 2013; Mills, 2014; Blok, 2014). Considering a set of papers on Istanbul's urban development (Angell, 2014; Hammond, 2014; van Dobben Schoon, 2014; Mills, 2014) as well as an assemblage approach to the historical drainage infrastructure in Bangalore (Ranganathan, 2015) offers important insights into how assemblage theory can support grounding urban theories in historical and site-specific processes. Rather than using assemblage theory as a template to produce and overarching theory that assumes explanatory power for any city, the approach allows for thick descriptions of urban processes and development that connect global flows with local, micro processes (Mills, 2014, p. 693).

Ranganathan (2015) discusses the historical development of Bangalore through the lens of an assemblage to tease out how historical and socio-political patterns of power manifest themselves within the urban-built

environment of the Indian city. Crucially, through the concept of assemblage, she achieves a politically nuanced, locally embedded perspective on how the material components of drains, dykes, ditches, pipes and run-off surfaces cohere into an urban assemblage marked by socio-political inequalities. Her discussion of infrastructure demonstrates not only the physical manifestation of such an assemblage, but also pays attention to the gaps and failures, the disruptions and local ad hoc measures taken by the locals to alter the assemblage. In chapter 4, such a line of inquiry is followed by tracing the historical development of Bangkok, foregrounding how molecular flows at times alter and de-territorialise molar power relations.

Moreover, Angell (2014) discusses earthquake vulnerabilities in Istanbul through the lens of an assemblage and carefully maps the complex interrelations between the material quality of concrete, people's religious belief systems, their attitudes and values, international property speculation, and authoritarian urban planning processes that together cohere into an assemblage propelling action (Mills, 2014, p. 694). Similarly to such an analysis, this dissertation follows the imbrication of water's materiality, social conflicts, affective forces, political contestations, and animal presences in the city and maps how their mutual dependencies and re-enforcements cohered into an urban flood assemblage in 2011 (chapter 5). Looking for open futures for climate change and displacement assemblage theory thus provides potentialities for new alliances being generated e.g. through the material affordances of the city, which are necessary for creating such open futures (see chapter 5.2 and 6.3.4).

Finally, urban scholars have also paid attention to the deleuzoguattarian concept of smooth and striated spaces within the urban (Watt, 2016). Deleuze and Guattari develop this conceptual pair by drawing, for example, on the ocean as a vast, uncoded and primary smooth space. Yet, throughout historical epochs, it was precisely this smooth and fluid mass of water that gave rise to successive endeavours to create striated space. Colonial enterprises and capital's desire for expansion emerged as drivers for forging new techniques of striating, controlling and making governable the oceans. The conceptualisation of smooth and striated, their interlaced states and their potential to be transformed into either one, speaks of a multiplicity of space in which space is never pre-determined but actively produced (Watt,

2016). Within chapter 6, urban struggles that engage in forming widespread alliances are seen as a political assemblage that struggles for the creation of smooth space for open urban hydro-futures.

2.3.3 How to Use Assemblage Theory?

This section briefly defines the most important concepts that are used throughout the dissertation and their relation to an assemblage approach. Image 2.1 shows a depiction of how I made use of the concept of assemblage within the dissertation.
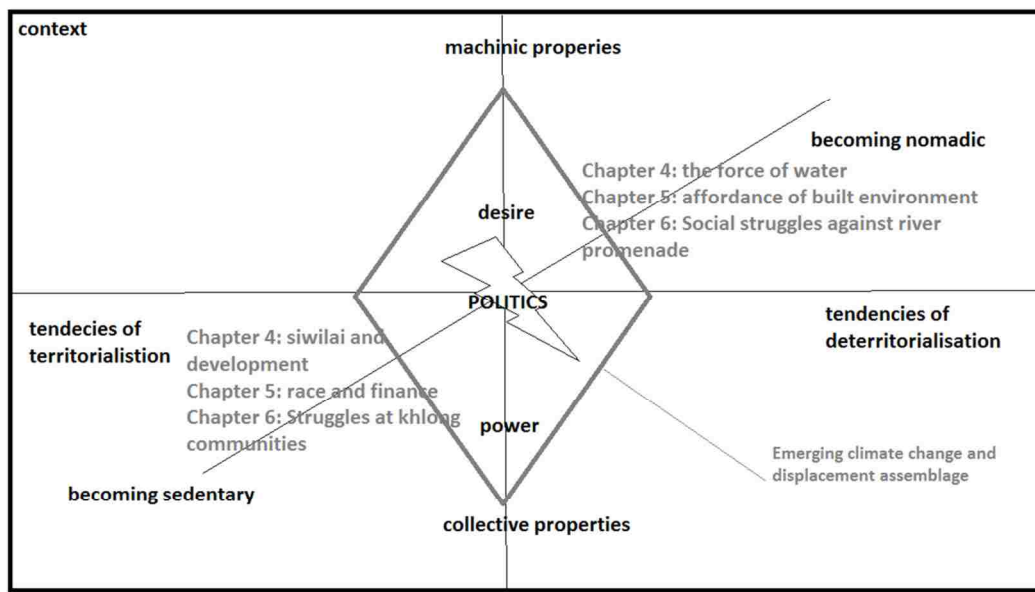
Image 2.1. Use of assemblage approach in dissertation. Own graphic.

Milieu/context

As the images 2.1. shows, an assemblage emerges within a particular context or milieu. These milieus are communicating and in contact with each other and form the exterior to an assemblage (Protevi, 2010, p. 200). It is from this heterogeneous milieu that elements are selected and cohered into an assemblage. Chapter 4 of this dissertation attends to the urban geo-hydro-history of Bangkok and addresses the different milieus involved in the urban transformation of the Thai capital city. In chapter 5, the investigated flood assemblage emerges within the particular context of contemporary global capitalism. Importantly, in pondering the concepts of milieu and context, assemblage thinking is well equipped to assist a research agenda such as the one Morrissey (2012) has sketched for climate change and displacement scholars: "A contextual and historical approach[to climate change and

displacement is needed that] queries issues of power, asking why particular relationships matter and how they came to be" (Morrissey, 2012, p. 45).

Machinic assemblages and collective assemblages of enunciation

As image 2.1 shows, assemblages emerge between a set of binaries. The climate change and displacement assemblage under investigation comprises machinic and collective properties. Deleuze and Guattari write: "An assemblage [...] has two sides: it is a collective assemblage of enunciation; it is a machinic assemblage of desire" (Deleuze & Guattari, 2003, p. 81). Collective assemblages of enunciation are forged from statements and acts (Livesey, 2010, p. 18). Bignall (2008) and Murray Li's (2007) conceptualisations of collective assemblages of enunciation seem to be similar to that of the Foucauldian apparatus or dispositive:

"Dispositif, apparatus, [...] assemblage theorists have used various terms to refer to the way in which heterogeneous elements including 'discourses, institutions, architectural forms, regulatory decisions, laws, administrative measures, scientific statements, philosophical, moral and philanthropic propositions' are assembled to address an 'urgent need' and invested with strategic purpose (Foucault, 1980, p. 194 quoted in Murray Li, 2007, p. 263)

Chapter 4 discusses particular elements of Bangkok's historical transformation through the notion of a collective assemblage of enunciation. These transformations also stand in contact with machinic assemblages that foreground the material alignments of heterogeneous parts (e.g. bodies, objects, matter, actions, passions, affects) of "mechanic content" (Dewsbury, 2011, p. 149; Roberts, 2012). Particularly relevant literature for this project utilises the concept of a machinic assemblage when analysing effects of race and class (Swanton, 2010; Saldanha, 2006 a & b, 2007; Gidwani, 2008) to show how this use of assemblage theory complements the more collective, molar tendencies investigated through discourses or *dispositifs*. Saldanha (2006a & b; 2007) and Swanton (2010) use the concept of machinic assemblage for thinking about how bodies are sorted into different racialised phenotypes. Their analysis refers us back to the strange capacity of matter to both connect and yet differentiate: "If matter names that which is in common, it is an odd commonality, always already entangled in a heterogeneous logic of difference" (Anderson & Wylie, 2009, p. 319). It is the excess and turbulence of matter that produces the heterogeneous logics of difference to function (ibid).

Swanton explains: "Race not as some essence, but as taking form immanently and temporarily through a particular conjunction of material and immaterial elements in an encounter as swirling affects, memories, and images stick to particular assemblages of skin, car, and road" (Swanton, 2010, p. 448). Section 5.2.3 explores the machinic workings of race within the flood assemblage that emerged in Bangkok in 2011 and its ambiguous effects.

Axis 1: Territorialisation- power- re-territorialisation

Image 2.1 shows two principal tendencies of the assemblage. First, there is the tendency of assemblages to claim a territory and to be structured along forces and powers. Deleuze portrayed assemblages as leading to order, striation and territorialisation (Legg, 2011, p. 129). Assemblages always function through the gathering of elements into a territorial constellation. In particular, Bignall (2008) has stressed that it requires unequal power relations to maintain the territorial functioning of an assemblage. She considers Deleuze's work on Nietzsche and his idea of "the will to power" as a useful starting point to clarify that concerns about power are not at all absent from Deleuze's theorizations and that despite a vitalist ontology that even permits for *thing power* (Bennett, 2010), the capacities to effect change are unequally distributed: "The will to power is the determining element in a force relation in so far as it influences the way forces come to be hierarchically positioned in that relationship" (Bignall, 2008, p. 131). Yet, power, as seen as an interplay of forces, is (very much like Foucault perceives power) said to be split between a tendency best understood as an affirmative "power to" and a negative "power over" (Bignall, 2008, p. 131)[2]. Power cannot be reduced to forms of domination or repression, but is capable of producing affirmative forces as well.

To make power at this level of an assemblage analysis useful, Allen's (2003, 2008, 2011, 2016 and Allen & Cochrane 2007, 2010) work can be drawn on. His topologically informed vocabulary of modes of power is based on the work of both Foucault and Deleuze. John Allen's work on power usefully highlights that power comes in various modes and has both socio-

[2] Andrew Robinson and Simon Tormey (2010) discuss how desire within the work of Deleuze and Guattari is split between an active and reactive tendency, which mirrors e.g. Foucault's distinction between power and domination or Holloway's notion of "power over" and "power to" (Robinson & Tormey, 2010, p.25-26). (- The last distinction we can also find in Jon Allen's work, following Hannah Arendt.)

temporal as well as socio-spatial dimensions. His understanding of power crucially departs with classical visions of state power in which power tends to be equated with the potential of the state to muster resources and capability over a given territory (Griffiths, 2007). Allen, however, starts his reflections on power by stating that it cannot be reduced to either a capability or a resource but is an immanent affair, ergo "something which works on subjects as well as through them" (Allen, 2003, p. 65). It is essentially transmitted and shaped through social relations. Furthermore, power is a normalising force that impacts the conduct of people (ibid. 66).

Allen then focuses on the spatial reach of various techniques and modes of power and stresses that power is always processual, open-ended and often leads to unintended consequences (ibid. 66). Authority, for example, is said to be based on its being seen as legitimate and relational. Authority needs recognition to operate (Bulkeley, 2012, p. 2429) and is usually underpinned by asymmetrical capabilities of actors. While in his earlier work, Allen's theorisation of "authority" is said to best suit short spatial reaches when it can be exercised through established social hierarchies (Allen, 2004, p. 118), a later turn towards a more topological reading emphasises spatial dimensions of power as a form of pervasiveness that is "'reaching into' political arenas or 'drawing within close reach' key actors" (Bulkeley, 2012, p. 2433).

Axis 2: Desire- deterritorialisation- lines of flight

The other tendency of an assemblage is expressed in its de-territorialising forces. Deleuze and Guattari see desire as the driving force circulating through vital bodies that shape all assemblages. In *Anti-Oedipus*, they write: "Desire constantly couples continuous flows and partial objects that are by nature fragmentary and fragmented. Desire causes the current to flow, itself flows in turn, and breaks the flows" (Deleuze & Guattari, 1983, p. 5). Deleuze clarified that desire "[...] functions like a mechanism, produces little machines, establishing connections, among things" (Deleuze in Lapoujade, 2002, p. 233). Deleuze and Guattari thus insist that desire as such is both real and material. Second, desire is seen as an extra-personal force possessed by all kinds of bodies (Braidotti, 2013). Desire is thus not seen as a human character trait, but as an expression of vitality found in both human and non-human bodies.

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"For Deleuze, desire is the force of association that operates in the primary realm of micropolitical relations between bodies, whereas power is the force of consolidation or capture that binds bodies in macropolitical relationships" (Bignall, 2008, p. 137). As Bignall (2008) elaborates, desire forms assemblages, while power holds them together. As desire animates the formation of new associations between elements, desire drives things from stasis to forms of "becoming". Here the ontological status of materiality and agency within the deleuzoguattarian idea of an assemblage emphasises the transformative capacity of matter. These evolving forms do not follow a pre-determined pattern or order, but rather have the potential to also lead to unexpected and madly chaotic formations.

Deleuze and Guattari call these formations "lines of flight", resulting from the disruptions that routinely occur in assemblages. As such, it is in particular the machinic assemblages that "[...] break down as they function, reminding us of the openings that exist between [...] and within" (Sweeny, 2013, p. 115) assemblages. Gaps, failures, stutters and ambivalences are thus crucial elements of assemblages as they also lead to disorder, smoothing, de-territorialisation (Legg, 2011, p. 129). De-territorialisation works towards a plane of immanence in which radical new ways of connections are possible. Re-territorialisation, on the other hand, refers to the moments when the plane of immanence is recaptured by powerful forces. De- and re-territorialisation are not terms for evaluating or morally judging social change; rather, they attend to the dynamics unfolding within social relations that produce change – whether this change is for the better or worse (Blitz, 2011). This dissertation thinks through the de-territorialising effects of floods and policies which disrupt existing assemblages and maps how these temporary planes of immanence are recaptured, re-territorialised by stronger forces. These processes of creating soon-to-be futures are fraught with uncertainties and experimentations. Crucially, – not only do they generate questions about future societies, but also revelations about the ways we territorialise societies today.

Becoming nomadic

Finally, the vocabulary developed by Deleuze and Guattari also contributes to the development of a particular political subjectivity. Hetherington and Lee's

(2000) essay on blank figures within the social order is used as a starting point to reflect on political agency. Drawing on card games and domino, they write: "In terms of the hierarchies within the four suits, and of the order of this fourfold division itself, the joker is underdetermined" (Hetherington & Lee, 2000, p. 169). They continue: "Such a figure introduces the possibility of alterity into relations of difference that make up what we call an order. The joker certainly adds disruption to social order, but we should not lose sight of the fact that it can also save rather than destroy order" (ibid. 170). The agency of the joker is thus ambivalent as it can strive for stability or change for liberating politics and creative *lines of flight* that subvert existing hierarchies or work to re-establish order. In particular, feminist author Braidotti has illustrated how progressive and emancipatory politics can be located in humans' capacity of becoming what Deleuze and Guattari term "minoritarian" or "nomadic" (Rosenow, 2013; Sutherland, 2014). Braidotti writes about the necessity to think about figurations emerging within assemblages as they are certainly not written off from the list of actors bearing the potential to effect change. Rather, she argues, these figurations can help us to locate the intersections of materiality, affect, power, desire and processes of de/re-territorialisation (Braidotti, 2013, p. 47). As Braidotti illustrates, these figures are not determined by discourses and language, but are rather embedded in their milieu, entangled in dense and expansive webs of relations, and thus always positioned *somewhere*, even if this somewhere defies any static, sedentary notions. Such figures are never reducible to essences, but emerge and change in relation to their particular surroundings (2012, p. 56).

Methman and Rothe (2014) have already started to relate the nomadic capacity to smooth out space and de-territorialise state interventions to discourses and visual representations of climate migrants within European policy discourses. Their paper explores how the concept of the nomad helps to make sense of the ambivalent position of the climate migrant as threat-and-victim, as helpless-and-bearer-of-change. In their analysis of European policy discourses, the North African MENA region is foregrounded as a striated "buffer zone" to ward off uncontrolled migration and to discipline migrant flows. Under conditions of climate change, the policy papers point out, the conditions of migration, their routes and causes become blurred and obscured by an increasing complexity of causes. As such: "It is not predictable where

disasters might occur next, just as the preferred destination of people on the move is unknown. […] As such climate migrants are not graspable, measurable or representable for the institutions of the state […]" (Methmann & Rothe, 2014, p. 174). They propose perceiving climate change-induced migration as a process bearing the potential to *smooth*, or at least disrupt, the functioning of the state, potentially altering the power relations that inform the present striated MENA region with its dense networks of border control (ibid. 176). The dissertation continues this line of inquiry and interrogates what kind of nomadism emerges within the climate change and displacement assemblage in Bangkok (see chapter 6).

2.4 CONCLUSION

This chapter has reviewed the two most common conceptualisations of the link between climate change and displacement. They either view it as a deterministic (Maximalist) or complex (Minimalist) relationship. Both positions are contrasted and critiqued. In particular the Maximalist position is said to be fraught with neo-Malthusian assumptions and latent racialised tendencies (e.g. Bettini, 2013; Hartmann, 2010; Baldwin, 2012) that tend to see climate refugees either as passive victims or threats to international peace and security. This dissertation joins in rejecting such a position and views the apocalyptic perspectives expressed in it as politically problematic.

The Minimalist position advocating for perceiving climate change-induced migration as much more complex and advocating for a more affirmative stance towards migrant flows in general seems to bear greater potential for this project. Yet, two important concerns have been raised with regard to this literature. First, a discursive reconfiguration from climate refugee to climate migrant is said to be geared towards harnessing the climate migrant's potential for serving as a cheap labour resource for continuous capitalist accumulation. Moreover, the political call for collective mitigation and adaptation measures becomes individualised by portraying the climate migrant as a resilient individual that can muster the burden of raising him-(her)self out of poverty and sending remittances to increase resilience at home. This shifting of the climate change adaptation burden from collective to individual shoulders not only seems to be a real threat within contemporary climate change debates, but also serves to de-politicise climate change- and displacement-related research (Felli, 2012), which this dissertation aspires to

resist. Furthermore, the predominant employment of quantitative methods used to equip policy makers with a robust "evidence base" rather than being more attentive to qualitative voices of dissent seems to be a particular problem of the Minimalist position.

Thus, this chapter expands on Baldwin's (2014) notion of perceiving climate change and displacement as a relation by introducing the analytical tool of an assemblage. The second part of the chapter thus answers the first research question: How can the concept of assemblage contribute to a more nuanced understanding of the politics involved in the link between climate change and displacement in Bangkok?

Assemblage thinking, this chapter has argued, is well equipped to aid political investigations into what is at stake within the relationship between climate change and displacement. Firstly, viewing climate change and displacement as an emerging assemblage opens room to think about more-than-Western ontologies and more-than-human agencies that shape the particular relation. Given the South-East Asian context of this dissertation, assemblage theory provides us with an arguably suitable ontological position that has already engaged into conversation with non-Western philosophies. As such, assemblage theory seems suitable to advance a position on climate change-induced displacement that can potentially contribute to broaden conceptual territories that are still dominated by Western academia. Secondly, a vitalist perspective on assemblage theory provides us with a set of tools to analyse the material and affective changes through which climate change becomes understood as a "material circumstance" (Baldwin & Bettini, 2017). Granting agency to matter and non-humans, such a perspective pushes a conceptualisation of politics towards appreciating both a politics of affect and a material politics in which the sole bearer of change is no longer the figure of the human. The conceptualisation of the political at stake in climate change and displacement is thus broadened to a post-human understanding of politics that suits the aim to imagine truly collective open futures for climate change-induced displacement.

Drawing on an "assemblage urbanism" literature further allows for clarifying how assemblage theory contributes to the project of investigating the politics within the relation between climate change and displacement in

the city. Rather than perceiving urban spaces as homogeneous places of either displacement (Myers, 2005; see section 2.2.1) or integration of climate migrants (Tacoli, 2009; see section 2.2.2), an assemblage perspective foregrounds the multiplicity of urban space. Urban life is seen as constituted by the potentialities of change and flux of relations that characterise the metropolis. Cosmopolitan populations, heterogeneous social positions, urban materials and infrastructures, power relations and economic forces are entangled in the urban milieu in which the potential climate change and displacement assemblage emerges.

As such, assemblage theory helps broaden our understanding of how particular actants are potentially enrolled in the relation between climate change and displacement and what specific forms of force or power such actants can muster to achieve their actualisation. Finally, imagining open (urban) futures for climate change and displacement is enhanced through assemblage theory by its conceptual tools of nomadism and smooth space. As assemblages are not only able to appear relatively stable and coherent (Legg, 2011), but also to produce madly chaotic break-downs, lines of flight and moments of de-territorialisation, these unpredicted gaps or failures bear the potential of breaking away from striating forces. It is in these unexpected moments when new forms can push to the fore and achieve their actualisation. Open futures seem to depend on such a potential to break away and – even if provisionally – create smooth space in which new alliances and solidarities across the human/non-human divide can be fostered. Hence, assemblage theory equips climate change and displacement research not only with a tool that is attentive to situated, heterogeneous socio-material power relations, but also with a rich vocabulary to attend to more hopeful, liberating and experimental ways in which climate change and displacement may manifest themselves.

CHAPTER 3
ASSEMBLING DATA FOR AN INTRA URBAN COMPARISON

3.1 INTRODUCTION

> ...How do we pack worlds into words?
>
> (Latour, 1999, p. 24)

Shortly after arriving in Bangkok I felt overwhelmed by the idea of conducting research in such an alien and seemingly inaccessible city. I only realised then that I truly had jumped in at the deep end. When explaining my research interest to people, I somehow felt cornered in by self-doubts: I did not speak Thai (and have learned only very few words in the course of my stay), I had no substantial prior field research experience and only few pre-existing contacts in the city. Fortunately, my institutional affiliation with the Geography Department of the Chulalongkorn University helped ease me into the task of "becoming" an ethnographer. This chapter seeks to reflect on this process and revolves around the second research question of this dissertation: How can qualitative research methods contribute to a critical engagement with the emerging urban climate change and displacement assemblage?

Section 3.2 of this chapter accounts for the experimental, intra-urban comparative (McFarlane, Silver & Truelove, 2016) research design and the principal methods (ethnographic observations and semi-structured interviews) used in the dissertation. Section 3.3 reflects in greater depth on the relationship between the proposed methods and the assemblage framework of the dissertation. Following the quote by Bruno Latour used to open this chapter, the section seeks to think through the value of a deleuzoguattarian framework for translating ethnographic encounters into data. In section 3.4, the relationship between urban ethnographies and power relations is investigated. Section 3.5 offers a critical appraisal of the research design and reflects on shortcomings of the data collection process before the chapter is concluded in section 3.6.

3.2 UNPACKING THE ICONIC CITY: RESEARCH DESIGN

As the previous chapter has argued, cities are treated in a rather opaque way in the presented literature on climate change and displacement, and emerge as somewhat under-theorised spaces of either refuge or danger. Non withstanding such a lack of commitment to city spaces in the reviewed debates, other research traditions have produced a wealth of insights into uneven vulnerabilities to natural risks and hazards in cities. In these literatures displacement, resettlement and mobility during floods are often mentioned *alongside* other coping or adaptation measures and thus provide a useful context for this dissertation's aim to broaden perspectives on what is at stake politically in the emerging climate change and displacement assemblage in Bangkok. The following short review identifies what other research exists on urban floods and shows how the dissertation's findings can relate to I (Wisner et al. 2004, Pelling, 1999, 2003; Whitington, 2013, 2016; Padawangi et al. 2016; Roy et al. 2013; Jabeen et at. 2010; Ajibade & McBean, 2014; Santha et al. 2016; Braun & Aßheuer, 2011; Few, 2003; Akmalah & Grigg, 2011; Marcotullio, 2006; Padawangi & Douglass, 2015).

Urban floods and other water related stresses (e.g. water pollution, water depletion, sea-level rise) have received considerable attention in this academic research on vulnerabilities to environmental change since Wisner et al. seminal book *At Risk* where they stated: "Flood disasters are made by people and not just water" (Wisner et.al, 2004, p. 202). By now it seems firmly established that the urban poor, in particular in sprawling Asian cities are most vulnerable to floods (Marcotullio, 2007). Santha et al. (2016) add to this finding that internal migrants tend to be in a particularly vulnerable situation. They highlight how internal migrants to cities like Mumbai tend to be in most disadvantageous positions during monsoon related floods as they lack social networks and knowledge of the local area and urban particularities during these events. The dissertation thus explores in how far people with forms of different migration backgrounds were adversely put at risk during the inundation of Bangkok in 2011 (see chapter 5).

A common theme that cuts across diverse contributions on urban floods revolves around urban infrastructures and the way they shape and mediate urban hydro-risks unevenly (Akmala & Grigg, 2011). Much research

on unequal urban flood risks relates this to colonial legacies of fragmented infrastructures (e.g. Pelling, 1999; 2003, Padawangi et al. 2016), another strand of literature foregrounds vulnerabilities and inequalities that can arise in future oriented urban planning (e.g. Whitington, 2013, 2016; Padawangi et al. 2016). A third set of research looks more closely at the coping mechanisms and *ad hoc* adaptation strategies of vulnerable urban groups (Few, 2003; Roy et al. 2013; Jabeen et at. 2010; Ajibade & McBean, 2014). This dissertation draws inspiration from these diverse approaches to urban floods and thus sketches some of the findings of the three strands of literature here.

First, Mark Pelling' (1999) discusses the historical transformation of Guyana through colonial rule and continuous consequences for unequal flood vulnerability in the city. The transformation of hostile lands into the "Rice Bowl of the Caribbean" (Pelling, 1999, p. 250) and the expansion of the city parallel to the coast line for strategic export business required both an enormous input of (slave) labour and an increasingly anthropomorphised agricultural land- and urban waterscape (ibid. 251). These measures moreover reflected the selective flood security interests of the colonial elite. Today's flood prevention mechanisms inherited these old spatial and political segregation: "decision-making power continues to be held centrally by national political elites that draw upon racially defined constituencies" (ibid. 256). In particular squatters in informal settlements in the city thus continue to be especially vulnerable to flood related hazards (Pelling, 1999, p. 253).

Chapter 4 of this dissertation offers reflections on the historical transformation of Bangkok and the semi-colonial and postcolonial influences and local power structures that shape the socio-material and political relations of people to the urban waterscape.

Second, Whitington elucidates how Singapore is engaging highly technical solutions for future climate change related water stresses. Cities capacity to plan for contingent futures and to develop forecasts are here critically examined, as they lead to more grey infrastructure and costly technical measures in Singapore but fail to adequately factor in the possibility of sudden, chaotic climate disruptions (Whitington, 2016, p. 416). Moreover, these solutions trigger a vast array of potentially devastating consequences for local populations who need to be replaced to make room for reengineered water fronts and new dam systems.

In a different example from Jakarta, where flooding is a reoccurring problem that puts thousands of inhabitants at risk, local communities are supported by academics and NGOs trying to find more inclusive ways of planning for climate change related floods (Padawangi et al. 2016). Efforts have been made to increase the negotiating power of informal communities in adaptation planning by supporting a set of participatory and crowed sourced mapping projects (Padawangi et al., 2016, p. 147). It is through intimate knowledge of the neighbourhood's built environment and the collective effort to document and learn from environmental change that the community is developing its coping mechanisms that are potentially leading towards more future oriented adaptation strategies.

Chapter 6 of the dissertation thinks through the grievances of local populations caused by infrastructural designs meant to facilitate climate change adaptation and focuses on how activists struggle to get a say in Bangkok's city planning efforts.

The third strand of literature analysing urban floods focuses on uneven vulnerabilities and more ad-hoc or intuitive coping mechanisms of urban poor and squatter communities (Roy et al. 2013; Jabeen et at. 2010; Ajibade & McBean, 2014). Here infrastructures –and especially their breakdowns- resemble what Simone described when he noted that people themselves need to turn into "the very bodies of household and kin to hedge against uncertainty" (Simone, 2015, p. 20). From such a perspective one may „conceptualize climate change as just one additional factor that is, and will become increasingly, important in [...] an already complex and dynamic livelihood context for poor urban people" (Roy et al, 2013, p.159).

Jabeen et al. argue that taking a closer look at the coping mechanisms of the urban poor helps to also generate insights into how to develop more community led adaptation and resilience measures. Their research „conducted in Korail settlement in Dhaka, [is] showing different types of coping capacities that people use, such as physical modifications, savings and access to credit, diversified income sources, social networks and accumulation of assets" (Jabeen et al., 2010, p. 416) to cope with urban hazards such as floods or heat waves. While the urban poor might be more vulnerable than other urbanites, their present-day coping strategies might thus hold a key for future climate change resilience.

Research from Lagos has similarly shown how the urban poor employed various strategies to cope with recurring floods: "Coping strategies employed in the communities included the construction of temporary bridges with sandbags and transportation of victims to safer sites by canoes" (Ajibade & McBean, 2014, p. 83) Infrastructures were improvised from material forms found in the neighbourhood and often supplemented by humans who took over particular roles. The study is significant, as it also attends to why dwellers of the informal settlement did not trust early warning systems and official evacuation orders. A few years before the flood, a slum was evicted under the pretence of climate change related sea-level rise, later the area was redeveloped for elite housing (ibid.) Within the complex mix of coping with urban floods –and temporarily relocating or joining government shelters- lies thus another questions on how populations relate to the state. Trust into state institutions is not always given and thus communities may opt to rely on their own support networks more than on state provisions.

In Chapter 5 I reflect on how urban dwellers creatively appropriated the vertical dimension of the city to cope with the flooding and propose to think of such strategies as potentially contributing to rethinking urban-hydro relations. I also explore the relation between flood victims and the Thai state during the 2011 inundation is this chapter.

As the debates on climate change and displacement reviewed in Chapter 2 foreground a set of iconic cities of the Global South, in particular those situated in delta regions, where climate change and displacement are said to unleash their effects first (Myers, 1995, Tacoli, 2009; Foresight, 2011) Bangkok is chosen as a research site. I propose to unpack the historical, future-oriented and more ad-hoc coping strategies that are underpinning the climate change and displacement assemblage by drawing on qualitative methods such as ethnographic observations and semi-structured interviews within an intra-urban comparative approach.

3.2.1 Intra Urban Comparison

Bangkok is one of the cities frequently mentioned within climate change and displacement debates (Myers, 1995; Tacoli, 2009; Foresight, 2011; Baldwin, 2014). Moreover, academic literature and policy documents that discuss

general climate change vulnerabilities of the city frequently refer to the possibility of human displacement (OECD, 2007; Marks, 2011; Lertworawanich, 2012; Bergquist, Daniere & Drummond, 2014). Ranked 7th in the OECD study on 136 vulnerable port cities, Bangkok is said to be at risk of witnessing waves of mass displacement by 2070 (OECD, 2007). However, being the unquestioned economic powerhouse in the South East Asian region, Bangkok remains a key destination for internal, regional and international migrants who may put additional pressure on the city's ecosystem and increase its unsustainable sprawl (OECD, 2007; Myers, 1995). While this dissertation falls short of acknowledging the importance of more "ordinary" cities (Robinson, 2002), Askew (2002) has convincingly argued that: "[...] however much it is vehemently denied, Bangkok does represent Thailand: in an intense, confused and complex way, the capital is shaped by ways of life and power structures which have evolved in Thai society at large" (Askew, 2002, p. 2). Hence, devoting energy to unpacking the relationship between climate change and displacement in such an iconic place like Bangkok seems justified to gain insights into the confusing and complex urban ways of life impacted by climate change.

To tackle this confusing complexity that Bangkok presents, the dissertation takes a comparative approach. Yet, this comparative approach might be counter-intuitive to e.g. the above mentioned 2007 OECD study that seeks to generalise and then rank cities against each other. To achieve such ranking, the study develops a rigid grid to compare particular socio-economic and physical properties of the city of Bangkok against other vulnerable port cities across the globe, with the explicit goal of raising awareness for needed urban policy measures to protect valuable urban assets. While the sample of cities transgresses the divide between cities of the Global South and Global North, the underlying assumption of the report is that "in general, cities in richer countries have higher protection levels than those in the developing world" (OECD, 2007, p. 3). Hence, the report reiterates the "common-sense" divide between developing and developed cities. It seems necessary to acknowledge that comparisons of such kind tend to be framed by a particular imagination in which cities (of the Global South) are compared against an implicit standard – often modelled on Northern cities' experience. As such, many comparative studies are found to espouse a bias in which cities are

often thought of as "not yet" or "not quite" conforming to a theorem or prior abstraction, which calls for critique particularly from post-colonial scholars (Jacobs, J.M. 2012; McFarlane, 2010). Robinson's (2002, 2011, 2016) work, for one, has contributed to critiquing a comparative mode that erases certain sites off the maps of researchers (e.g. more ordinary cities) or work that leads to a devaluation of certain urban developments in the Global South. Comparative urbanism is thus not free from a history of Western or post-colonial bias (McFarlane, 2010).

Instead of comparing Bangkok with other places across the globe, this dissertation's perspective on what comparisons can achieve differs considerably. For example, Lancione and McFarlane argue that comparison can also serve to de-stabilise and unsettle assumptions and theories we carry about urban life (2016, p.3). Furthermore, when such an unsettling is achieve new lines of inquiry can be developed (ibid.) Thus, comparisons made within the text aim to generate new insights into the differences that underlie the climate change and displacement assemblage while simultaneously being produced within it. As such, the research design follows critical urban scholarship, which has argued that experiments with comparative studies can be useful to challenge this apparently self-evident divide between "developing" and "developed" cities that often render the two categories incomparable (McFarlane & Robinson, 2012). Comparative urban studies are seen as potentially fostering more nuanced urban imaginations and opening room for new debates, theorisations and conversations across seemingly distinct places "beyond compare" (Robinson, 2011). While such a "comparative gesture" (Robinson, 2011) seems useful to enable new conversations and insights across radically different places, this dissertation's geographical scope is rather humble. Drawing on recent experimentations in intra-urban comparison (IUC) (McFarlane, Silver & Truelove, 2016), the dissertation seeks to unlock the different relations of climate change and displacement evolving in various parts *within* Bangkok. I perceive such a move not merely as a retrospective fine-tuning of a comparative lens, but rather as an attempt to give a certain methodological and analytical precision to an understanding of cities as multiple urban worlds.

The reason for calling the research design "experimental" is justified in three distinct ways. First of all, the comparisons done within the dissertation

are conducted in radically different socio-economic and racial settings. Rather than comparing several similar socio-economic status groups to find reliable patterns or insights that permit generalisations, the dissertation weaves together accounts of urban poor people, refugees, NGO workers, and government officials with the aim to explore difference in itself. As Lancione and McFarlane have put it: "Such a move serves to destabilise the tendency in urban studies to compare similar things or to compare nominally different contexts only to highlight the similitude between their urban processes" (Lancione & McFarlane, 2016, p. 3). Throughout the six months of research in Bangkok, a view on the city was developed that perceived the city as a multiplicity of "urban worlds" in itself due to its sheer size, complexity and profound inequality (ibid. p. 2). Such a reading of the city becomes obvious when looking at the historical development as well as the administrative organisation of the city. While the "old town" of Ko Rathanakosin reveals a clear spatial pattern structured along human- made waterways, attesting to their former importance, the urban sprawl of the last few decades has produced seemingly unplanned and almost chaotic spatial designs reaching out in every direction. The urban form differs vastly across these city sites, and so do water and transport infrastructure and the socio-environmental relations accompanying them.

Second, the dissertation looks at displacement as an embodied experience within different sites and among different people in the city, rather than relying on pre-defined, analytical abstractions (e.g. the "climate refugee", "climate migrant"). The experimental nature here allows including affective dimensions, small-scale, temporary and seemingly ordinary ways of displacement and contributes to situated understandings of urban life itself. On a sensory register, for example, the different urban worlds unfolding in Bangkok also invite comparative thinking to address the micro differences that mark the city (Lancione & McFarlane, 2016, p. 2). The rhythms of daily routine and the intensities of urban life along different watercourses in Bangkok raise awareness for their differentiated status. The smell of the *khlongs* and the river differ sharply depending not only on the time of the year but also their location within the city.

Finally, the experimentation lies in remaining open to also attending to what Lancione and McFarlane, following Ward, call "interconnected

trajectories" (2016, p. 3) to foster a critical urbanism. Urban hydro-relations in a city of more than 10 million inhabitants are infused with economic rational and local experimentations. An IUC approach as proposed by McFarlane, Silver and Truelove "can reveal a different kind of urban politics across the city" (2016, p. 2), as particularly attested to in chapter 6 of this dissertation (where two different kinds of urban struggles over the waterscape are investigated). As such, "the idea beyond […] experimental comparison is to compare things to learn from them, not to explain things on the basis of their comparison" (Lancione & McFarlane, 2016, p. 3). Importantly, such a research design seems to serve the dissertation's quest to think about open futures for climate change and displacement. As J.M. Jacobs (2012) writes: "It [comparative urbanism] is about grounding abstractions not by reducing differences, but by learning from the multiplication of difference; such multiplication can foster alternative urban imaginaries and futures" (Jacobs, J.M. 2012, p. 906). The comparative experimental research design here thus contributes to discovering difference, and thus fostering open imaginaries of climate change-impacted futures.

3.2.2 PRINCIPAL RESEARCH METHODS

The principal methods for data collection used in this dissertation are ethnographic observations and semi-structured interviews that were conducted during six months of research in Bangkok (from September 2015 to February 2016). As I was afforded the opportunity, I decided to revisit Bangkok for 10 days at the end of August 2016. This second, albeit brief visit, allowed me to revisit and re-interview the Khlong Bang Sue community, and allowed me to try once more to conduct interviews with the local and national government, which previously did not respond to my interview requests. The qualitative research methods used were further complemented by intensive desk research and document reviews in different libraries in Bangkok (e.g. Siam Society library and the Thailand Information Centre (Chulalongkorn University).

3.2.2.1 Urban Ethnography

The term ethnography as used in this dissertation can best be perceived as an approach or umbrella term, rather than a singular method. Ethnographies entail conversations and chats, open-ended interviews, formal observations, chance encounters and activities of all sorts shared with the selected

community (Crang & Cook, 2007). Ethnography refers to a personal form of conscious becoming in the world, of allowing oneself to become drawn into the life worlds of others. Or, as Crang and Cook have pointed out, ethnography aspires towards

> *"[the] immersion of the researcher's self into the everyday rhythms and routines of the community, a development of relationships with people who can show and tell the researcher what is 'going on' there and, through this, an experience of a whole range of relationships and emotional states that such a process must inevitably involve" (Crang and Cook, 2007, p. 37).*

As such, ethnography involves both a cognitive as well as embodied and sensory immersion of the researcher into a particular site (Pink, 2006). Ethnographic accounts are not limited to the observable only. Rather, they can also aspire to record smells or sounds. Such sensory accounts were collected within diverse sites and communities in Bangkok.

While comparative urbanism must wrestle with a history of Western bias (McFarlane, 2010), the same is true for the method of ethnography. This past needs to be acknowledged here before the method can be redeemed. The history of ethnography as method was crucially shaped by three distinct disciplines or schools: anthropology (with a traditional focus on studying "other cultures"), the *Chicago School of Social Science* (with a focus on the construction of meaning), and humanist geography (emphasising human – environment interaction) (Hoggart et al., 2002, p. 253). The traditional focus on other cultures made it a contested method: "Traditional ethnographers once worked as documentarians, entering a (foreign, 'exotic') culture, observing and often participating in the lives and activities of the community, making recordings and writing field notes, and then leaving to 'write up' and publish a representation of the group" (Adams, Holman Jones & Ellis, 2015, p. 11). This traditional use of ethnography – often complicit in colonial explorations and exploitation (Campbell & Lassiter, 2015, p. 8) – thus served as a way to record and chart other groups of people in the quest to "know their ways" and thus render them more governable. Complicit in Western domination, ethnographies tended to reflect prejudices and stereotypes more than contribute to emancipative engagements with different cultures (ibid.).

The redemption of ethnography as a valuable tool to make marginalised communities visible only came through various rounds of critical self-reflection by anthropologists, sociologists and human geographers (ibid.). The beginning of the *cultural turn* in Human Geography (since the 1980s) made a greater emphasis on qualitative research possible (Winchester & Rofe, 2010, p. 18). As part of this turn, human geography fully embraced ethnographic research and pronounced its interest in the "complexities of social and cultural processes" (Hoggart et al. 2002, p. 256). As "going to the field" is a central aspect of geographic research (Howitt & Stevens, 2010, p. 41), ethnography advanced to become a thriving methodology in the discipline. In a nutshell, ethnography tries to acknowledge: "the richness and complexity of social life. The emphasis on holism in ethnography gives it a persuasive attraction in dealing with complex and multi-faceted concepts like culture…" (Hine, 2000; p. 42; cited in Hoggart et al., 2002, p. 252). Today, ethnographic research is quite accepted as a critical tool to investigate (e.g. urban) social life in the discipline of geography (Lancione, 2016).

Participant observations mark a key feature of any ethnographic study and are of great importance for this dissertation. This method shares a rather intuitive procedure, as Angrosino points out, since most of our common sense knowledge is derived from a lifelong time of engaging and observing our environment and other people (Angrosino, 2007, p. 53). Yet, participant observation is in many ways a challenging method as it forces the researcher to engage with a community and detach herself from it for critical reflections at the same time (Tedlock, 1991, p. 69). Dewalt and Dewalt (2011) perceive this as a creative tension that allows for new insights and perspectives. Participant observation entails the active contribution of the researcher to the researched community and transforms the researcher from a "detached observer" to a "player in the scene" (Hoggart, et al. 2002, p. 251). Within data collection for this dissertation, this transition was a gradual process with only varying success. While gaining access and a certain level of involvement with the *khlong* communities in Huay Kwang, I never completely managed to become a full-fledged "player in the scene". Section 3.5 reflects on these shortcomings. Gaining access to a community, immersing myself within it and gaining insights into their everyday practices (Emerson, Fretz & Shaw, 2001, p. 352) was only partially possible. While I repeatedly visited the *khlong*

communities, I never moved to live in the district or managed to form more lasting ties with members of the community. While I was fortunate to gain the trust of one of the senior community leaders at Khlong Bang Sue, it would not feel right to claim that I was a proper member of their community. I see the language barrier as the main reason for this limited success.

Apart from observations, this thesis utilises a wealth of field notes, alongside with recordings and photographs taken during these observations. These are the main (tangible) sources produced during my observations and thus form the basis for writing this dissertation (ibid. 353). During the process, I kept an electronic research journal, sharing entries bi-weekly with my supervisors to maintain informal, electronic chats and supervision during my field research. Sharing these notes and informing my supervisors of planned trips within the city and interviews helped me to continuously reflect and monitor my approach to the time in the field. The bi-weekly email exchange moreover guaranteed that I would continuously put the worlds I encountered into words to share. The advice given during the email exchanges proved invaluable for reminding me that all ethnographic methods take time and require much patience whilst simultaneously encouraging me to experiment with diverse ways of finding access to communities and paying attention to the more mundane or routine urban encounters I had during my time in Bangkok.

Ethnographic observations demand that researchers take the experiences of other human beings seriously, their practices and actions and ways of engaging with the world. Self-criticism and reflexivity are hence key skills for ethnographers (Emerson, Fretz & Shaw, 2001). The knowledge obtained from participant observation radically differs from that obtained from interviews. Through participating in communities' activities, the researcher will eventually learn about affect, atmosphere and emotions. Embodied knowledge that can be observed, but not easily expressed in words, becomes accessible through participant observation (Emerson, Fretz & Shaw, 2001, p. 353). The dissertation foregrounds such findings and sees the systematic attention to observing atmospheres, practices and affects as a key strength of the method it employed.

Yet, it seems crucial to acknowledge that critics of participant observation tend to see the method as too "subjective" and question the quality of its findings as they are not as easily generalisable and quantifiable as e.g. survey findings (Greener, 2011, p. 84). While it seems crucial to admit a degree of "subjectivity" within the interpretation of the findings, chapter 2 has already discussed how every claim to pure objectivity within research methods is in itself an ideological claim (see Harvey, 1974).

Selected Research Sites

Given the paramount interest in the urban-hydro relations of the city, different elements of the waterscape were selected as sites to conduct ethnographic research and discuss in qualitative interviews with various actors. The map below identifies some of the key sites I investigated. The following table then highlights why these places and methods were chosen to investigate the waterways, and points to the chapters of this dissertation in which the gained insights are being discussed.
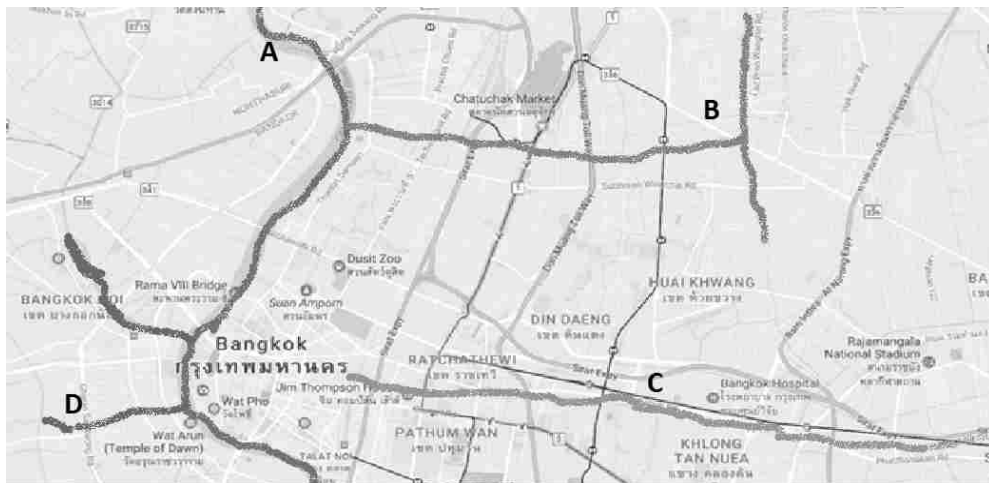
Image 3.1. Screenshot adaption, Bangkok map with research sites (circled) A) Chao Phraya River, B) Khlong Bang Sue (running east to west) and Khlong Lat Prao (running north to south) in Huay Kwang district, C) Khlong Sean Seab running through the CBD, D) Khlong Noi running through Thon Buri district

	Chao Phraya River	Khlong Bang Sue and Lat Prao	Khlong Sean Seab	Khlong Noi & Khlong Yai
Why chosen?	River of high cultural and historical significance for the capital and country at large. Busy transport	Important drainage khlongs in the northern districts, housing urban poor communities,	Busy transport route through the CBD district	Popular tourist sight to experience the "fluvial past" of the Thai capital

	route for travelling along the north/south axis of the city.	currently under reconstruction		
Methods used to explore sites	Participant observations, participation at Loy Krathong festival at the river, discussions and informal chats with river activists	Participant observations, walk along interviews, in-depth interviews with community leader, joined excursions with other academics	Participant observations, independent explorations of the khlong promenades, informal chats and conversations with other commuters and interpreter Fai	Informal chats with other tourists and tour guides, participant observations
Insights discussed in chapter	4 and 6	5 and 6	4	4

Table 3.1. Short overview of research sites and methods used in dissertation.

As the map and table shows. the selected waterways differ in nature. The Chao Phraya River is the most important river of the country and steeped in socio-cultural and economic importance. The Sean Seab Khlong is a wide and busy canal, serviced by the Sean Seab Express boats that transport people along the east/west axis of the city, from the Golden Mountain in the old part of the city all the way to the eastern outskirts. The Khlong Lat Prao and Khlong Bang Sue communities are situated in the northern district of the city, along much smaller canals. Here, the informal settlements reflect traditional architecture and ways of living. The last waterways discussed are the Khlong Yai and Noi Canals, mostly serviced by long-tail boats, allowing tourists to experience traditional Bangkokian fluvial lifestyles. As such, all waterways fulfil distinct functions, are used by particular people, and reveal the multiplicity of Bangkok as the cultural, touristic and commercial hub of the country. The dissertation unlocks how these sites are entangled in the climate change and displacement assemblage unfolding in Bangkok in various ways. Apart from these repeatedly visited urban sites, the dissertation is informed by a set of events attended and observed during my six-month stay in Bangkok. For a detailed list of these academic workshops, NGO meetings, and weekly volunteering at an urban refugee school[3], see the table in Annex.

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[3] After interviewing a refugee support group in Bangkok, I was invited to help out with English lessons at an informal refugee school. I accepted and used the opportunity –

3.2.2.2 Qualitative Interviews

The second principal research method of this dissertation is semi-structured interviews. Based on a careful desk review conducted prior to the field work, a number of key institutions were selected and contacted with an invitation to participate in this research. The interviews conducted varied in length (between 45 minutes and 3 hours) and were enabled through a snow ball sampling technique in which one contact led to another. This technique proved successful as generally people where a lot more responsive and open to participating in the study when approached with reference to other participants. As the topic of urban climate change and displacement lies at the boundary of several institutions (e.g. human rights groups, urban planning, environmental NGOs), a range of different expertise and perspectives were sought. In total, 34 interviews with academics, refugees, NGO employees, IGO workers, as well as bureaucrats from the Bangkok Metropolitan Administration (BMA) and the national Ministry of Urban and Town Planning and the National Ministry of the Environment were conducted. (For a short list of interview partners, see table 3.2. For more details, see Annex).

Interviewee	Name within Text
Officer at Department of City Planning Bangkok Metropolitan Administration (BMA)	Officer at Department of City Planning (BMA)
Community Leader Khlong Bang Sue Community	Auntie Lek
Community Leader Khlong Lat Prao Community	Jumras
Former ACCRN co-worker and environmental activist	Porpla
Academic couple	Cohen couple
BIG TREE activist couple	BIG TREE activist male BIG TREE activist female
Friends of the River Spokesperson	Spokesperson FOR
Artist	Miti
IOM Country Officer	IOM Country Officer
UNEP Country officer	UNEP Country Officer
Academic	Pongporn
Academic	Yangyong
Retired academic, Chulalongkorn University	Retired academic
Officer at Country and Town Planning in the Ministry of the Interior	Thongchai

after ensuring consent from the parents –to interview some of the adults involved in maintaining the school. These findings are partially reflected in chapter 5. However, they have mostly led to a co-authored publication independent of this dissertation.

Director of Coordination Division Office of Natural Resources & Environmental Policy and Planning (ONEP)	Director ONEP
Student from 2011 Flood-Relief activist	Oat
Officer at Thai Tourism Authority	Officer at Thai Tourism Authority
Officer for outreach at Asylum Access NGO	Community Outreach Officer at Asylum Access
Director of Asylum Access NGO	Head of Asylum Access NGO
Co-worker Asylum Access	Co-worker Asylum Access
Director of Thai National Refugee Council	Director of Thai National Refugee Council

Table 3.2. Short list of interviewees.

Gaining access to the Bangkok Metropolitan Administration and the national government proved rather difficult, and I was only able to conduct a few interviews with representatives from those institutions (see section 3.5 for a discussion of shortcomings). The interviewees were contacted through different channels e.g. via email or through Facebook messenger with an interview request, a short outline of the project's purpose and research questions as well as an informed consent sheet. Whilst in the field, I also adopted the strategy of sending out official letters to the BMA and national government to adhere to Thai etiquette.

Interviewing is a common research method in geography; yet, its specific benefits and shortcomings are worth a short critical appraisal. Different interview formats can be thought of as a continuum from structured (the same order of questions is asked to every participant) to semi-structured to unstructured or narrative (only prompts are used to generate a story) (Dunn, 2010, p. 102). This typology corresponds to the amount of control researchers assert over the research topic and people's answer. The interviews conducted for the dissertation mainly fall into a semi-structured category where a set of topics, questions and prompts were prepared but a sufficient degree of openness was maintained to encourage interviewees to voice their opinions. Such an approach was deemed useful as it allowed for a certain degree of experimentation. Especially, questions asked about personal experiences with the flood often produced unexpected answers that led to invaluable insights into the lived experience of flood victims. As such. the method proved ideal to introduce a certain flexibility and openness towards

the data gathered, as what people included or excluded in their stories did not always match what I had anticipated to find (George & Stratford, 2010, p. 145).

To prepare for the interviews, I followed a framework developed by George and Stratford (2010, p. 145). who propose a three-part structure in which a) orientational questions are asked, followed by b) common questions and c) specific ones. I thus always prepared a set of orientational, general and specific questions for the interviews. The clear strength of interviews is to fill gaps in the data that other methods cannot bridge. Within interviews, one can collect ideas, thoughts and opinions of participants that contextualise and explain complex social realities. Within interviews, "truth" is not found, but perspectives are opened (Dunn, 2010, p. 103), which makes it a powerful tool to engage with both prominent, as well as marginalised or subaltern, groups. For example, George and Stratford talk about a narrative interview they conducted with an old lady to explore environmental change in her region: "Her perceptions, understandings of rural life, and representations of that life to others are threads of everyday and ordinary existence whose cumulative weavings constitute a rich tapestry of local geographical knowledge" (George & Stratford, 2010, p. 139). My research experiences in the *khlong* communities confirm the value of conducting interviews on sites where people live and feel secure. As such, the semi-structured interviews I conducted at times had ethnographic elements as many of them were done "on-site", thus allowing for the interviewee to be observed in their e.g. community or workspace. In particular during the interviews within the *khlong* communities and at the refugee organization, observations and formal interviews converged. Chitchat before or after the actual interview at times proved almost as insightful as the reply to prepared questions. Being shown around in office buildings, informal urban communities and refugee centres before or after the interviews demonstrated how ethnographic work within the city was never quite limited to formal observations at a specific site, but rather informed my general approach to meeting people in the field. Thus, the two distinct methods at times flowed into each other, helping to minimise shortcomings of interviewing. George & Stratford (2010) highlight that the epistemological assumptions of interviewing are by no means uncontested. They point out that the potential insights gained from interviews always relying on the

assumption that people can and want to communicate their ideas, attitudes and feelings. Yet, some experiences may be beyond speech. As such, the combination of participatory observations and interviewing were mutually beneficial.

The visits to the *khlong* community in the Huay Kwang district involved a set of walk-along interviews where community leader Auntie Lek showed me around her community. Walking along the back lanes at the *khlong* and being told the stories of change that now render the community a site inhabited by the urban poor was a powerful example of how location matters in knowledge production. "[A walk-along interview] involves the production of meaning in participation with them through a shared activity in a shared place" (Pink, 2011 b, p. 271). The shared boat rides on the canals, and walks through the community were important moments when a co-construction of meaning evolved, contributing to a form of ethnographic place-making (Pink, 2008). Visiting the community on several occasions allowed for an understanding of "how human practices of everyday life, performance and imagination are implicated in the production of both material and sensory realities" (ibid. p. 178). Through repeated visits, it also became possible to attest to the eventfulness of the place, which both entailed elements of change and stability (e.g. seasonal changes between monsoon and dry period) within it (ibid. p. 179). The different ways of exploring the community, by boat or by foot, also involved different tactile engagements. Where Inglod (2004) emphasises the tactile groundedness of walking, floating along the *khlong* involved a different form of moving through the community. Embedded in the fumes and sounds of the boat engine, the conversations we had whilst floating through the Bang Sue community were enabled through a certain co-dependency as we all relied on each other's help and team work to enter and leave the moving vessel. As such the different modes of transport seemed to entail different kinds of sociability alongside different sensory experiences of smells, the heat and noise of the motor. Through ethnography and interviewing, these insights into urban practices were gained.

As the quality of interviews – whether they are semi-structured or narrative – is determined by the trust and rapport built between the researcher and participant, it felt right to offer each interviewee the chance to be interviewed in a place of their choice. While many interviews were

conducted in people's offices, some environmental activists proposed meetings in their secret "headquarters", a coffee shop in the Bangkok Arts and Culture Centre (BACC), an art museum where they tend to hold meetings to prepare activities and events (see chapter 6). With some of the interviewees, multiple interviews over the duration of my research period were conducted. which as Heyl (2001, p. 369) writes, significantly added to the trust and rapport between us. This type of interview can help by "...illuminating how recollections and representations are placed over extended periods and enabling researchers and participants to track and understand changes across spatial scales as well as temporal ones" (George & Stratford, 2010, p. 141). The diverse range of people interviewed further enabled a comparative dimension in this work, as many of them related their experiences of living with floods and climate change in Bangkok to their actual experiences in other cities or their imaginations of other urban places. Migrants, expatriates, and Thais who have returned from above thus added a "translocal comparative" (Glick Shiller, 2012, p. 880) perspective to this study. Moreover, they frequently pointed to the different roles of the waterscape in the city, comparing different elements of it in the present and frequently also comparing them against an imagined/real past. The comparative gestures (spanning both space and time) found across many of these interviews thus inspired their analysis.

Moreover, what seems quite common in Thailand is a certain degree of self-censorship. Fearing political repression from the military junta (also in the name of protecting the monarchy), various research participants declined discussing overtly political matters with me. Some also explicitly asked to remain anonymous. Moreover, I was asked by two participants to switch off the recording when we discussed the role of the royal family in Thailand's climate change policies. The names used in this dissertation to refer to the interviewees are thus not completely uniform. I used first names whenever I was permitted to do so and referred to people by their occupation only if they asked to remain anonymous.

3.3 ASSEMBLAGES AND URBAN ETHNOGRAPHY

This section argues for the idea that the concept of assemblage can serve not only as a theoretical tool, but also as methodological orientation for the experimental IUC design of this dissertation. Recent publications have

demonstrated the value of ethnographic research in the context of assemblage theory-inspired studies of urban economies (Simone 2010, 2011) or urban marginality (Lancione, 2016). In particular, work by Simone (2010, 2011) qualifies as an excellent example of bringing assemblage thinking and ethnography together. It also can be perceived as a valid operationalisation of an IUC research design, as his interest is not only in illustrating and analysing differences across interconnected cities of the Global South but also in being attentive to the multifarious minor differences arising across one and the same city. Simone's work demarcates a line of inquiry that foregrounds urban life itself and makes visible its messy and chaotic nature, as well as the aspirations and dreams that drive people in various Southern metropolises. Given the complexity and "messiness" of the entanglements of climate change and displacement, such attentiveness to minor differences unfolding within the city seems like a good way forward towards creating more nuanced knowledge on climate change and displacement.

3.3.1 RESEARCHING AGENCY

My research on urban displacement was moreover not limited to human beings. Contemporary ethnographic work has started to grapple with the effects of non-human actors in the research field more profoundly. Taking into consideration the various tools, materials, cultural artefacts and infrastructures that are shaped by humans but also shape humans in return, my ethnographic work pays attention to observing and analysing mobility beyond humans, and fits well into the concerns of assemblage theory. Maurstad, Davies & Cowles (2013) utilise Deleuze's concept of *becoming* in the context of an ethnographic account of rider-horse interactions, illustrating how multi-species ethnographies are needed to make sense of the embodied knowledge production in horse-rider interactions that enable such a shared form of mobility. As Haraway (2003) has argued, social human life is shaped through a continuous process of "becoming with" other significant "companion species". Within interviews, I was frequently told that people refused to leave their pets behind during the 2011 inundation. When I visited Auntie Lek for the first time at her home, a pack of dogs welcomed my interpreter Stamp and me. Her house was shared with these former stray dogs that now see her home and garden as their territory as well. The agency of non-human animals is drawn on in the chapter on the flood where I ponder both aspects of inter-species' care and the urban, uncanny non-human

presence of mosquitos, alligators and snakes that roamed the inundated city in 2011.

Apart from animals, technological artefacts have received attention in ethnographic research to reflect on how non-humans are entangled in human mobility. Most notably van Doorn (2013) reflects on his smart phone as a connected technological artefact that had a significant impact on the way he was able to do research, navigate the field, as well as construct it. Similarly, I used my phone to navigate the city. Sometimes when I ended up in a dead end, I realised that I had navigated myself off the striated grid of the city. The moment of feeling lost turned into the pleasure and excitement of exploring new sites and urban worlds within the city. On a walk through the eastern Thonburi side, I quickly realised that my phone had become less reliable as I entered the increasingly smooth space of an area of the city where the modernisation zeal of municipalities and big business had come to a (temporary) limit. In those moments, "contemporary ethnographic work continues to demonstrate the value of unpredictable and sometimes surprising fieldwork happenings" (Trigger et al. 2012, p. 515).

Sometimes, while I was lost in these small *sois*, the phone's navigation app just showed me an undefined grey area in which I was standing, erasing the textures, smells, built environments surrounding me. The phone had visibly turned the urban edeglands I was walking through into an unscripted, smooth space on the small virtual map. As such, the phone triggered my perception of space and my initial analysis of it, extending its use from collecting to thinking through data. We formed a temporary machinic assemblage, which allowed me to test the limits of my own agency. It was within the moments of feeling all too reliable on my phone when the concept of "distributed agency" (Coole, 2005) that arises in the interplay of parts sank in. As assemblage theorists describe it, agency is not a cause-and-effect relationship but the "heterogeneous enjoiner of forces", as Bennett (2010) has put it. A more-than-human ethnographic reflectivity, so appropriate for this study, allows for taking these enjoining forces into consideration.

Not only did the phone help me to "find" and analyse the field, but also to connect to it in several other ways. Pannee, the director of the Geography Institute at Chulalongkorn University, advised me to download the

communication app "Line", which enjoys high popularity in Thailand. Downloading "Line" then opened a new way of experimenting with data collection in the field. The app proved useful for contacting and staying in contact with research participants. Some of these participants started sending me images and text messages after the interview to either help me find more research participants or to keep me informed about developments in their community. To my surprise, "Line" also added to my own credibility as a temporary Bangkokian. With the new app, I was now able to give people my "Line ID" (username) to stay in touch. This preferred mode of communication relieved participants from the burden of having to use other forms of contact such as email exchanges. This new way of connecting to people also refers to van Doorn's observation that: "ethnographic research is shaped by intimacies and affective relations whose technologically mediated textures complicate common understandings of what constitutes the spatial and temporal parameters of 'the field'" (van Doorn, 2013, p. 385), as some participants continued to send me messages many months after I had left Bangkok.

"Line" is quite similar to the "Whatsapp" communication app popular in many Western countries. That means one can add contacts to a messenger platform which allows one to chat, voice call and share pictures with other users. As such, it is a somewhat more private and intimate way of exchanging messages with each other than e.g. the post or like function one has on Facebook. Interestingly, using "Line" seems to have a profound effect on formality and hierarchy within Thai society. As my interpreters Stamp and Fai both told me, it seems quite acceptable to contact teachers and professors through this communication app and informally ask for academic advice. Here the rules I learned through reading about Thai culture of always using appropriate titles and showing respect and gratitude towards more senior people seem somewhat loosened. Stamp, for example, showed me a chat protocol between her and the department director Pannee, and whilst being unable to read the Thai exchange of words, I was surprised by the number of *emojis* used to communicate with each other. In fact, the use of these pictures frequently challenged my understanding of aesthetic representations of emotions, as the visualisations in "Line" are radically different to the ones found in e.g. Whatsapp. As such, the supposedly simple switch from one communication tool to another entailed a profound act of intercultural

learning. "Line" made it possible for me to connect to more people, but also challenged notions of formality and style in contacting and in maintaining relationships with research participants.

Facebook, on the other hand, became important to opening up new research avenues and to building rapport with specific communities. Initial contacts were often made here, as people tended to respond more readily to Facebook posts and messages than to emails. The experimentations possible here took an even more profound, possibly political turn than using "Line". By liking, sharing and posting particular images or news reports, the virtual terrain of the platform allowed me to stay connected to the struggles of certain NGOs I met. Furthermore, through the small act of liking or sharing particular posts, I was able to express my support and sympathy for their projects. In this admittingly banal and by now mundane way of following and sharing their activities online, I propose I was able to "give something back" to the NGOs I met. Whilst a "like" certainly does not compensate them for the time and effort they made to talk to me, I, however, hope I was able to increase their visibility within the virtual network. What seems significant here then is that Facebook crucially extended my "field site" beyond the physical realms of the city itself into virtual territories. The embeddedness of ethnographic research within a community can thus stretch from the physical to the virtual field.

Leonie Tuitjer
25. November 2015 · ▼

Very happy Loi Krathong to all of you. I spent the afternoon at the Chao Phraya, meeting the NGO "Friends of the River". Maybe my Thai-speaking friends would be interested in this petition:

พล.อ.ประยุทธ์ จันทร์โอชา: ยับยั้งการสร้างทางเลียบแม่น้ำ เจ้าพระยา 14 กม.

เนื่องด้วยรัฐบาลพลเอกประยุทธ์ จันทร์โอชามีนโยบายจัดสร้างทางเลียบแม่น้ำเจ้าพระยาข้างละ 7

Image 3.2. Screenshot from Facebook Page. Own Image

Moreover, practices of mobility and their experiences of displacement during the flood were often documented on people's Facebook walls. As such, my smart phone became an important node where various types of data, modes of engagement with research participants, as well as different worlds and temporal dimensions were brought together. Through the connection of my phone to an online storage space, the little machine also became the primary gate towards a temporal virtual storage space, allowing me to save the collected data. To comply with the important rules and regulations of the University's data protection act, I later sorted all the data into a folder on my personal laptop to avoid both its loss or misuse.

From an assemblage perspective, this notion of the bound, sovereign subject is routinely challenged and displaced by an understanding of bodies as being entangled in dense, relational webs (see chapter 2). While such a perspective is proposed for thinking through the researched subject matter or the positions of research participants, it holds equally true for us as researchers whilst conducting research. And although I determined whom I

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contacted and interviewed, where I went to in the city and what type of data I was looking for, my ability to access the desired information was often enabled through a set of relations I only had limited control over. As such, my personal attempt at "becoming ethnographer" was both enabled and at times frustrated by a set of enjoining forces both human and non-human. Ethnographic research is thus always firmly entrenched in an interplay between chance and choices, and crucially experimental. During the fieldwork, I realised that assemblage theory can foster a greater awareness of this.

3.3.2 RESEARCHING URBAN AFFECT

In particular, work by Sarah Pink (2008, 2009, 2011 a,b,c) has raised attention to sensory experiences in field work and the power of affects in shaping research encounters. "The rhythm, smell, sense, tension and pleasure that go into producing what will become research and data remain largely outside of such discussions, even though these are the very ways in which we carry research into the library, the studio and the lecture hall" (Fraser & Puwar, 2008, p. 2). Long marginalised in the ethnographic reports produced, ethnographers now start to fully acknowledge and represent the importance of sensory experiences in the field. Work on smellscapes or soundscapes, for example, focus on one particular sense to illustrate what we can learn (socially, culturally and politically) by focusing on our senses. Knowledge that can be derived from such e.g. olfactory experiences can enhance the embeddedness of our understanding of social worlds. Montsion and Tan (2016) have for example raised attention to the significance of smell in understanding the racial divides and prejudices within an Asian city.

Crucially, this points to an awareness that what we think of as data within social scientific research is not so much found and discovered, but rather experienced and enacted during our research (van Doorn, 2013, p. 386). What the researcher can learn through being attentive to people's perceptions of smell and his or her own olfactory experiences adds another level of understanding regarding the complexities of how humans experience their being in the world and how they make sense, even come to judgements, of their surroundings (see Chapter 5). Acknowledging the affects and desires of corporeal experiences and encounters is a shared concern for assemblage theory and contemporary ethnographic methods. Rather than treating senses as distinct from each other, Sarah Pink (2009) seeks to draw them together

and examines how they play across each other. In this dissertation, I am interested in comparing how e.g. smelling and hearing are powerful ways of perceiving socio-environmental affects that shape certain ways of becoming (im)mobile across different sites of Bangkok. This interest was provoked by the chance encounter described below.

When taking the ultra-modern urban sky train (BTS) in Bangkok, mainly used by commuters, tourists and expatriates (Richardson & Jensen, 2008) all passengers routinely encounter a standstill at the platforms. Every night at six in the evening –during the busy rush hour – stereo systems in the BTS stations are turned on, filling the train stations with the sound of the national anthem, calling all passengers to a respectful pause and silent waiting. As I was new in the city and unaware of this custom, the music caught me by surprise, its affect piercing me when I rushed down the stairs. Bewildered by the silently waiting people around me, I slowed down my pace, until an elderly Thai gestured at me angrily, making it obvious that I too should stop. So I stood and waited, too embarrassed and confused to make much eye contact or observe what other people were doing around me. I remember distinctly that my biggest worry in that second was that the song they played was the King's Anthem. Knowing that the King's Anthem is played in the cinemas, where it is seen as a severe public offence not to pay deference, I was terrified at having accidently committed a *lasé majeste* crime. I waited much longer than most people at the platform before I dared moving again, and then quickly made my escape from the station. On my way to meet friends, I was grappling with a set of confusing emotions. Whilst part of me felt embarrassed because I was scolded publicly by an elderly Thai for being culturally insensitive, another voice in me was angry about being subjected to such a forceful demonstration of power over my body by the Thai state.

Unexpected encounters like this certainly qualify as significant moments in ethnographic research, as Trigger et al. termed it: "Significant moments in fieldwork [can be defined] as intrinsically emotional, or felt, processes" (Trigger et al., 2012, p. 516). In this situation, the force of affect and the suitability of such an open and practice-oriented methodology like ethnography in exploring the role of affect in urban encounters became obvious. After this "significant moment", I became more and more intrigued to explore how human senses are paramount in shaping our practices in the

urban. The intensity of the sound in combination with the angrily gesturing Thai man constituted an unplanned urban encounter that enabled me to develop a greater sensitivity towards the connections between affect, power and urban mobility and displacement. My own experiences of learning more about the city during a rather mundane BTS journey seems furthermore "congruent with the idea of learning and knowing as something that happens in movement" (Pink, 2011 b, p. 272). Using the various transport infrastructures in the city enabled different insights into affects, (im)mobility, displacement and power; being mobile and exploring the city was thus often an activity that would feed into my research diary, as many of these trips entailed (unplanned) revelatory ethnographic encounters of varying intensity.

While the above example speaks quite clearly of the power affects can sometimes unleash, becoming an ethnographer also involved the cultivation of becoming affected by minor incidents, by quiet and less obvious forces. Conducting research in a foreign country involved developing a curiosity and a readiness to be affected. During my first weeks in the city, I spent much time on the Chulalongkorn campus, reading in the Thai Information Centre and having lunch in the canteen with the members of the geography department. Slowly becoming part of this group proved to be a valuable ethnographic "training ground", as it allowed me to learn more about Thai hierarchies in academia, food habits, social and cultural norms and values. It also led to the first interview-like situations when I started chatting to colleagues about my research. One day in the Chulalongkorn office, I spoke to an older member of staff about the 2011 flood and he kindly shared his experiences with me. When he described how he and his wife lived on the first floor of their house for a month, surviving on barbeques on the balcony, his face was beaming with joy, rather than recalling the flood as a period of particular hardship. His quiet but rather amused memories of the incident shook my own assumptions of it. Without much probing on my part, he re-constructed the atmosphere of the inundation as he had experienced or at least memorised it. To my surprise, my pre-conceived ideas of social unrest, fear and uncertainty shaping the event did not transpire in the account. In his narrative, he made room for a set of very different memories and re-created an affective atmosphere that undoubtedly exceeded what I would have expected. Drawing on my field notes, the conversation we had went as follows:

ME: How did you experience the flood?

Colleague: Well.. our house was flooded for almost a month, you know? The water was deep and we had to relocate to the first floor and stay there all the time. Our kitchen is downstairs and our bathroom as well... so that was very... inconvenient. And we have a dog and we had to take it upstairs with us.

ME: That sounds uncomfortable and a bit scary, no?

Colleague: Well... we didn't need to worry much about anyone than ourselves and well... I bought a small boat with which we could row to the drier parts in the neighbourhood. And we had a lot of barbeques on the balcony. Just like during the time when I studied in Australia. Actually, it was a lot of fun! And my wife and I got to spend some time together. You know? Usually we are busy but in those weeks it was really nice to just have time...

Incidents like this in research were remarkable because they revealed the desires and joys of people that did not stop or disappear in the face of the inundation. Through the experiential nature of this dissertation's research design, discovering differences and being surprised by the minor affects and emotions that enrich human experiences can be taken into account. Exchanges like the above can be made intelligible as finding a degree of liberation in the disruption of routines. Moreover, in his recollection of the events, my colleague used his past experiences of living abroad and the lifestyle he had back then as a point of reference of pleasurable memories. This Demonstrates that our experiences of urban environmental change are crucially comparative across the real and imagined space-times we have lived through. Yet, careful reflection on the entanglement of research participants in wider molar arrangements becomes important. Economic (and possibly age and gender related) privileges may inflect such memories.

The encounter reminded me moreover of the task of doing ethnographic research that forces one to develop a Deleuzian "impossible ear": "There is no absolute ear; the problem is to have an impossible one – making audible forces that are not audible in themselves" (Deleuze, 2007, p. 160, cited in Bignall & Patton, 2010, p. 10). The above sequence suggests that one not only needs to be attentive to more subdued voices but also should strive to make audible the bodily affects that escape audibility altogether. In the above excerpt, it becomes obvious that the flood was also a time of reconnecting, of intimacy, and a disruption from everyday routines. In this dissertation. one thus finds an attempt to think through the insights we can gain on the climate change and displacement debate if one makes audible the

emotions, touches and smells that profuse the urban socio-environments shaping human experiences and memories. The recreations of particular affects through individual memories thus enrich the various accounts collated in this dissertation.

3.4 URBAN ETHNOGRAPHIES AND POWER RELATIONS

As this dissertation seeks to contribute new and critical insights into the politics underpinning the emerging climate change and displacement assemblage, this section attends to three ways in which the data collection was impacted by different kinds of power relations. Some of these relations were well beyond my control, involving institutional power relations that regulate and govern academic research. Similarly, my own positionality and body mark a set of power relations necessary to reflect on here. Finally, power relations also emerged within the field, sometimes allowing for a careful negotiation of positions and the chance occurrences of lines of flight, subverting these relations.

3.4.1 INSTITUTIONAL POWER RELATIONS

Reflexive of the colonial legacy of the method, ethnographic research now emphasises the need to be aware and mindful of power relations in research (Howitt & Stevens, 2010, p. 41). Elements of informed consent (Dowling, 2010, p. 29), including parts of the field notes to ensure fairer ways of representing knowledge, as well as textual dialogues, are accepted strategies to incorporate research participants into the ethnographic outputs (Emerson, Fretz & Shaw, 2001, p.355). In this dissertation, research participants were informed via letter or email about the project, thus ensuring that they participated in it voluntarily. Moreover, this dissertation obtained not only required ethical clearance from the Department of Geography of Durham University but also obtained permission from the Thai National Research Council. After submitting an application in June 2015, I was able to collect my research permit upon arrival (Image 3.3).

Image 3.3. Research permit from National Research Council, Thailand. Own Image.

With this card, I was officially recognised by the state as a legitimate foreign researcher, which increased my self-confidence and at the same time anxiousness about the gravity of the task I was about to undertake.

The institutional processes necessary to conduct research in Thailand took time and impacted my research process a bit, making an earlier start of research in Bangkok impossible. As such, the administrative procedures that needed to be gone through before the departure to Bangkok strongly illustrate the sets of power relations that shape and enable the entire enterprise of research. Gidwani (2009) has reflected on the political economy of research, in which knowledge creation is commonly dependent on the translation of primary data collected in the Global South into a consumable form, e.g. a book or dissertation or report produced by academics of the Global North. This power relation is undoubtedly at work within this research, as the person who profits the most from it is (probably, hopefully) me as I am pursuing a PhD degree with it. Following Gidwani's example, I am not only consciously acknowledging this position of power I found myself in during my time in the field, but also hope that above (small, partial as they are) ways of "giving something back" can be read as a humble effort to reckon with them.

3.4.2 POWER AND POSITIONALITY

Assembling the data for my dissertation involved not only efforts to translate between languages, but also between epistemologies, world views, as well as heterogeneous practices, affects and power relations. An element of translating research data into text involves comparisons that entail a need to think through one's own positionality. Ethnographic studies have long engaged in a reflexive turn, where researchers are eager to make more visible how knowledge is produced by making explicit their e.g. class affiliations, gender or sexual orientations (Campbell & Lassiter, 2015). To say that I am a white, heterosexual woman, however, may add relatively little to understanding my positionality in the context of this study. As neither gender nor sexuality is foregrounded in this study as a particularly important category for analysis, reflections on both rarely occurred in interview situations. To better understand how I made sense of experiences in the city and interviews I conducted and arrive at conclusions, it might be more useful to acknowledge some of the places I have lived in before moving to Thailand for fieldwork. As the study is essentially about experiences of mobility and displacement, these past experiences often served as a way to engage with people. As McFarlane (2011 a) has argued: "Comparison is not just a spatial register of learning cities; there is also a temporal dimension as we learn in relation to our memories of past experiences and cities" (McFarlane, 2011 a, p. 19).

In 2009, for example, I had moved to India for six months studying feminist and post-colonial literature and international relations at Pune University. This previous experience of having lived in Asia repeatedly shaped my analysis and evaluations of the built environment, social power relations, displacement and mobility options in Bangkok. When I stayed in India, I had also experienced a heavy monsoon season. Despite the remarkable difference in the urban fabric in Pune and Bangkok, both cities seemed surprisingly vulnerable to seasonal floods due to little drainage infrastructure and increasing numbers of highways. I remember that one on my way back from university in Pune, I was stuck in a rickshaw on the submerged highway. Like all over travellers that day, I had to gather my backpack and wade home through knee-deep water. I remember writing in an email to my parents that day that this experience felt weirdly "democratic", as I was wading along with people in suits and poor neighbours to get back home. "Monsoon-democracy"

only stopped when I entered our nice town house and took a warm shower, whilst most over people had to endure a night in submerged huts. In Bangkok, I quickly realised that the modern transport infrastructure had rather different effects on monsoon mobilities. While sky train, boats and MRT were still running, the flooded streets hit pedestrians, cars, buses and motor cycles hardest. My previous encounters of a monsoon season in a different time-space allowed for being much more sensitive towards the differentiated demobilising effects of the monsoon in Bangkok. As such, my previous life experiences formed an (sometimes possibly less conscious) background through which I started to "learn the city", as McFarlane (2011 a) calls it, and translate experiences into data through comparisons.

A deleuzoguattarian understanding of "becoming" within the context of research also speaks about the shifting nature of my own positionality in the field. While I was keen to present myself as an "informed outsider" in most of the interviews I conducted to gain rapport and to assure the research participants of my own credibility, I turned into a complete student, or novice when out with Auntie Lek, ready to be led through the urban maze into her edgeland world. Moreover, certain aspects like my own nationality were frequently brought up in interviews, sometimes triggering comparisons where interviewees put their own experiences into a direct comparison with an (imagined) German context. At times, I could use these comparisons to challenge some of the implicit Western/non Western dichotomies that underpinned such statements. Similarly, many of my research participants shared an experience of having lived and studied abroad in an English-speaking country, which often led to a degree of commonality between us, which I used to develop a more personal and friendly atmosphere in interviews. Moreover, my past experiences as an environmental activist furthered my attention towards the politics and political tactics within interviews with Bangkokian environmentalists. As such, I was in a constant state of "becoming" a researcher, rather than assuming a static form of "being" one, which entails the acknowledgement of the multiplicity of "positionalities" one occupies during field work.

3.4.3 NEGOTIATING POWER RELATIONS IN THE FIELD
Apart from institutional power relations that are inscribed in academic processes, ethnography as a method is particularly suited to uncover power

relations in the social field researched: "Ethnography is actively situated between powerful systems of meaning. It poses its questions at the boundaries of civilizations, cultures, classes, races and genders. Ethnography decodes and recodes, telling the grounds of collective order and diversity, inclusion and exclusion" (Geertz, 1986, p. 2). As the quote shows, assemblage theory and ethnographic research thus share a keen interest in the practices and statements that shape the coding and recoding (or territorialisation and de/re-territorialisation) of social power relations. As such, both theory and method of this dissertation are geared towards the exploration of social change as well as the persistence of socio-material formations. Before going to Bangkok, I had contacted a few academics that had previously done work in Thailand to ask for advice on how to best approach the field. In particular, academics who had great command of the Thai language told me that I would need to find a reliable interpreter, as many Thais speak only little English. I was fortunate to find support in two Chulalongkorn students, Stamp and Fai, who worked as interpreters for me. The act of translation and co-construction of meaning with research participants in fact involved a lot of complex negotiations around the use of different languages (Venn, 2006 b), as the following example from my interviews shows.

When I sat down with Porpla, an environmental activist, academic and previous employee of the ACCRN network, issues with translation came up several times. When we discussed climate change, she told me that it was quite complicated to talk about it in Thai because the word does not translate neatly. She wrote down a series of Thai words for me, asking me to try pronouncing them after she had read them out. When I transcribed the interview a few days later, I had to giggle in embarrassment at my lousy attempt to get the pronunciation of the word right. The transcription of this interview passage, however, revealed several interesting moments worth reflecting over, in addition to my personal discomfort with my weak attempt at speaking Thai:

> *Porpla: [The word resilience] doesn't really translate. For the direct translation it [resilience] would mean responsiveness. And then [actually] the same [happens] with the word "global warming", it is so much easier to say [that, rather than "climate change"]. Because it is*

just two words. But for climate change... puhh... it is harder for local people to understand because for climate change we say this: [Porpla says a long sequence of Thai words. She then starts to write them down in both Thai and English script].

Interviewer: Wow! So you need all these words to translate climate change? [I think I recognise this word! I point to one of the words she wrote down in English script]. Wait, is that part of the word also a part of the kings' name? Bhumi?

Porpla: Yes. Yes. It is the same root.

Interviewer: And what does it mean?

Porpla: Earth.

Interviewer: Earth?

Porpla: Yes. But bhumi in this context, it does not mean earth exactly. It is more geographic somehow...

Interviewer: Ok? Hmm... maybe like globe? Or terrestrial?

Person: Ah... [Porpla takes our her smart phone and starts searching for a translation] Ah yes! And this [part means] weather [she is pointing at another Thai word]... so we need to mix these two words - land and weather - together to make "climate."'

Interviewer: Ah. Ok.

Porpla: [...] But in the kings' name it means the 'power of the earth.'

Interviewer: Power of the earth?

Porpla: No, power over! Earth [in this context] is more like ground or land... so it is the power over land. His [referring to King Rama IX's] mother, I think she meant to say that the earth is the foundation of everything. So she wanted him to be the foundation of everything."

[Porpla, January 2016, Bangkok]

During this sequence, the problematic idea of translating easily between languages becomes obvious, as the Thai compound for climate change is laden with approximations. Moreover, the excerpt shows how particular words are also infused with more complex meanings depending on their context. Jagosh and Boudreau have thus proposed to think about translation through the notion of ecology: "An ecological view of a translation process is one that accounts for the unpredictability and uncertainly involved when working with the dynamics of the language culture relationship. Ecology emphasizes the importance of the language context and the interplay of elements within the linguistic system." (Jagosh & Boudreau, 2009, p. 105). The act of translation thus depends not only on comparisons that work across languages but also on those that can be explained within the same language. As demonstrated above, "bhumi" can relate to various material forms depending on its context. The excerpt also shows how translation is an act that involves successive stages. and the importance of available tools that could act as mediators (in this case. Porpla's smart phone). First, the meaning of climate must be constructed, which involves some creativity in Thai as no original word exists for it. As there is no easy jumping from one meaning to the next, the phone helped as a device for checking particular translations.

The above interview excerpt, however, not only demonstrates the importance of being attentive to the particular logics of a language, but also can be read as a productive way of "getting side tracked" within an interview in at least two ways. First, moments like the one above seem to follow "… calls [..] to embrace a dialogic, conversation-driven approach to ethnographic fieldwork. Dialogism models the continuous, vulnerable, and overt play between research practice, identity, and difference" (Adams, Holman Jones & Ellis, 2015, p. 14). Porpla and I co-constructed a particular meaning in the sequence, working through the cultural/language divide by both bringing our associations and limitations of knowledge to the table. Whilst she searched for appropriate synonyms for "earth", I was offering a faint recognition of a Thai word I had read so many times in a different context.

Second, whilst we were discussing climate change-related policies before the translation incident occurred, my mentioning of the king's name "bhumi" moreover triggered a shift in conversation, a spontaneous "line of flight". Without my intention to tackle the thorny issue of the role of the

monarchy within environmental and climate change policies so early on in the interview, my remark about the word "bhumi" opened up a small crack in which we could explore the king's role a little. To my surprise, we were able to carefully reflect of the workings of the royal family in Thailand, which was a very rare and unexpected moment throughout all the interviews I conducted. Given the draconian *lasé majeste* law in Thailand, which makes any type of criticism punishable with up to 15 years of imprisonment by law, the gap that emerged through my remark was quickly closed again, and Porpla praised the support of the king for student activists at a demonstration in the 1970s. Despite her quick re-territorialising efforts, praising the king for his wisdom, the interview atmosphere had nevertheless shifted and we continued talking about activism and the current Thai junta, having established a new dimension of connecting with each other on a political and not only professional or personal terrain.

3.5 SHORTCOMINGS AND CHALLENGES

This section reflects on a set of challenges and shortcomings I encountered during my research. The most severe challenges revolved around the (relatively) short duration of my stay, problems of access to local communities and gate-keeping incidents involvingmore powerful institutions.

In particular within the discipline of anthropology, fieldwork is often conducted for a much longer period of time than the six months I spent in Bangkok. While I managed to generate a wealth of data quite sufficient for the writing of this dissertation, the comparatively short period of time in the field did foreclose a more substantive engagement with the local language and a more profound immersion with e.g. the *khlong* communities. Partially, the short duration of my stay increased the risk that most ethnographic research faces: namely, that methods such as participant observations are prone to unexpected challenges and even failure as issues of access to communities easily arise (Greener, 2011, p. 75). As aforementioned, I did encounter this problem. My original research plan involved a close cooperation with a community organisation called CODI (short for Community Organisation Development Institute), which is a partly state-financed, partly NGO-run institute that seeks to promote housing development in Bangkok, and whose work has been frequently addressed in connection with climate change adaptation and *khlong* revitalisations. My efforts to get in contact with CODI

were very time- consuming, yet unfortunately in vain. Even personal contacts I was able to get from some academics who had collaborated with CODI before did not lead to anything. Writing official letters with polite interview requests and numerous emails to the addresses I could find online never yielded a response. Equally, my Facebook messages were never replied to or ever read. I thus started to call up the institution each Monday when the person responsible for handling interview requests from foreign NGOs or researchers was supposed to be in the office. However, my repeated calls inevitably ended in either her being out, or her having to obtain permission from her boss first before I could come and visit the institute. Finally, I asked my interpreter Stamp to ring them, but she was deferred and finally turned down as well.

I believe that CODI's reluctance to work with me might have to do with a type of research fatigue, as their work has received widespread academic attention and received both positive as well as rather harsh criticism (e.g. Usavagovitwong, N., & Posriprasert, P., 2006; Yap, K. S., & De Wandeler, K., 2010; Archer, 2012). As I did try to contact them in a variety of different ways and languages, I finally accepted that this element of my planned research would not happen. Instead, I focused on developing my relationships with the small *khlong* communities in Huay Kwang. While these encounters profoundly shaped this dissertation, the lack of institutional engagement with the communities made a triangulation of my findings a lot harder. As their struggles against being resettled in measures that are contributing to flood-proofing the city are barely documented, my research is faced with the daunting aspect of pioneering insights into a community little is known of. Fact-checking and triangulation of findings (in particular after leaving Bangkok and not having ready access to native speakers anymore) became considerably harder here, as sources written in English about their community are so few.

Whilst the snowball sampling technique used for this dissertation proved very useful for getting to know both refugee/migrant as well as environmental NGOs in the city and gaining access to a few government and municipality officials, it was particularly hard to gain access to interviews with BMA officers. Here, I do suspect that the research abstract I sent out and the research questions I included might have discouraged some agencies to speak with me. Research has repeatedly demonstrated how the BMA's and national

government engagement with the 2011 flood was far from ideal (e.g. Cohen, 2012; Marks, 2015; Marks & Lebel, 2016,). This univocal criticism of putting political rivalries between BMA (yellow shirts) and national government (red shirts, at the time of the flood) before the safety of people and security of infrastructure and farmland has also led to public outcry. As such, it seems possible that my way of approaching these agencies (in which I made it clear that I also wished to talk about the events of 2011) was not particularly savvy. Yet, I felt – and still feel - strongly committed to the principle of informed consent and thus did not try contacting them with a different outline or slightly altered research questions. This being said, it is striking that those agencies that have received the most criticism in academic literature (e.g the BMA's Water and Sanitation Department as well as the National Royal Irrigation Department) never answered my emails, calls or letters. It seems to also confirm that more powerful individuals and institutions can use effective ways of gatekeeping to protect their interests (Goldstein, 2002, p. 670).

3.6 CONCLUSION

This chapter revolves around the second research question of the dissertation: How can qualitative research methods contribute to a critical engagement with the emerging urban climate change and displacement assemblage?

The chapter has argued that an intra-urban comparative approach generates a valuable research avenue into the complexities of the emerging climate change and displacement assemblage in Bangkok, Thailand. As it also argued, there is a lack of substantial engagement with urban sites as emerging terrains in which climate change and displacement may occur in one way or another. While the sprawling and diverse city of Bangkok is frequently mentioned in both academic research and intergovernmental documents for the likelihood of climate change impacting displacement, little attention has been paid to the diversity of such possible displacements. Thus, the task seems to lie in unlocking such an iconic place as Bangkok to go beyond apocalyptic narratives of displacement. The dissertation thus opted for a comparative lens that is attentive to the micro differences unfolding across the multiple urban worlds that comprise the Thai capital, as developed by urban scholars (McFarlane, Silver & Truelove, 2016). Rather than subscribing to a view that perceives Bangkok as a bound and coherent urban entity, the city is perceived as a complex, unequal and differentiated cluster of multiple sites,

materials and actors. The selected waterways and their socio-material status in the city reveal similarities and differences and attest to the need for small-scale ethnographic investigations to avoid an all too unifying treatment of the city. These are insights that can only be gained through an experimental, qualitative research design.

This research design employed qualitative methods consistent with the theoretical approach of the dissertation. The qualitative methods contribute to critical climate change and displacement research by suspending the need for previously defined categories and allowing for attention to be paid to various degrees and forms of displacement. Rather than providing a new typology of displacement, the qualitative research methods used thus create the necessary room to inquire into the complex lived experiences of various urbanites in the face of climate change. Moreover, these methods enable an analysis of what embodied knowledge that can be observed, but not easily expressed in words, can contribute to our understanding of climate change and displacement. The ethnographic observations and on-site interviews share an attention towards critically reflecting on agency/practice as well as sensory experiences/affect. As such, the methods contribute to the task of developing critical research on climate change and displacement, by foregrounding the importance of taking seriously the lived experiences of a diverse, cosmopolitan set of urbanites who transcend the categories of climate refugees or climate migrants, as proposed in much of the reviewed literature (see chapter 2). Reflexive research methods allow for a continuous experimentation with positions, keeping open conceptual space for appreciating various *forms of becoming* in the face of climate change. The qualitative methods used here thus preclude a "climate reductionism" (Hulme, 2011) and allow for a nuanced and careful description of urban life in times of climate change. Furthermore, by highlighting, the role of technological artefacts like a smart phone, the chapter has further demonstrated that a beyond-human perception of agency can be made fruitful on both a theoretical and methodological level. These insights not only force us as researchers to acknowledge our own limits, as well as personal augmentations by *others*, but also sensitise us for appreciating the degree to which our own capacities and decisions are crucially enmeshed with the lives and workings of other actants.

Ethnography's troubling past uses for colonial conquests have pushed researchers to carefully appreciate the power relations underpinning the method. This chapter thus reflected on the complex power relations that circumscribed the data collection and subsequent writing of the dissertation. Such critical appraisal seems not only necessary for the sake of defending one's methods, but also for contributing to the dissertation's project in more substantive ways. Attending to power relations that underpin the climate change and displacement assemblage is an important element of this dissertation. Thus, it seems necessary to be quite clear about the power relations that shape, enable and frustrate the research that was necessary to write this dissertation. Research does not operate outside of relations of power. Section 3.4 acknowledges this and crucially offers some reflection on which power relations may have been negotiated in the field and even momentarily disrupted. Research design and methods are perceived as a contribution to the critical stance of assemblage theory within this project.

Importantly, the methods presented form a coherent ontological and epistemological approach with the theoretical framework of the dissertation. Together they advance a position in which multi-faceted and poly-vocal experiences of climate change and displacement form an assemblage of sensory experiences, differentiated agencies, materials, statements, and opinions. Method and theory combined acknowledge their provisionality. They foster an active engagement with a set of problems rather than produce a set of ready answers. Qualitative methods like semi-structured interviews and ethnographic observations thus do not lead to policy recommendations and resist the call for an "actionable knowledge base", providing, rather, a set of provocations to such categories and intervention into the formulation of policies by instating partial truths and the complexities of urban life itself. Therefore, the research design is seen as fit to enable insights that can guide the dissertation's quest for open climate change futures.

CHAPTER 4
URBAN-GEO-HYDRO HISTORY

4.1 INTRODUCTION

Image 4.1. Flooded highway in Bangkok during monsoon season 2015. Own image.

It was early when I arrive at Bangkok Sunavabhumi airport in mid-September 2015. The humid air of the tropics welcomed me when I enter the taxi terminal. On the way to my new home in the international dormitory of the Chulalongkorn University, we got stuck in traffic despite the early hour and gradually merged into the slowly moving avalanche of cars and motorbikes, crawling through the concrete canyons of the city. I watched out for the khlongs, desperate to get a glimpse of the canals that once gave Bangkok the reputation of being the "Venice of the East". Even though I knew many of the canals had been replaced by roads, it were the stories and images of Bangkok's fluvial past that had kept me fascinated over the last months back home. But where on earth am I to find this "amphibious city" in this concrete maze? Where are the remains of the long tail boats and floating houses?

The taxi driver interrupts my thoughts: "It rains soon", he says. Minutes later the sky opens and releases a heavy load of monsoon downpour, the first I am to experience this rainy season. The monsoon drops are intense and fall on the taxi like a continuous stream that briefly washes away the dust of the city, momentarily disrupting the heat. Only minutes later the streets become flooded and until the end of the day the water in front of my new home in the dormitory doesn't find a way to sink or evaporate, turning the sides of the roads into shallow streams and forming large puddles of dirty water on the ground. Returning from dinner that night, jumping from one little dry patch to the next I thought: Maybe I have already found the waterscape?

[Bangkok, October 2015, Research Diary Entry]

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This chapter seeks to think through the urban-hydro-geo-history of Bangkok and its transformation from a water-based to terrestrial city. This historical

transformation is seen as a key to understanding current climate change vulnerabilities and provides the context in which the climate change and displacement assemblage emerges. The aim of this chapter is to attend to the slow and unfolding transformation of the city with the help of Deleuze and Guattari's concept of a geo-philosophy combined with Joy Parr's (2001) call for a more sensuous history of change. It draws on a set of interviews with activists, BMA and national government officials, as their stories and recollections of embodied knowledge and experience are seen as crucial to understanding the significance of historical change in Bangkok. The political within the emerging climate change and displacement assemblage is mapped within the on-going socio-material struggles involved in this transformation. The chapter thus refers to research question number three: How do historical forces, affects and actants shape the urban context in which the climate change and displacement assemblage emerges?

Section 4.1 maps Bangkok's urban-geo-hydro-history during the Early Bangkok Period (1793-1850s). The Siamese capital emerges as a multi-species assemblage closely embedded in the delta milieu, where fluid and solid states altered depending on the monsoon season. Refuting a naïve perception of this period as a smooth interaction between humans and non-humans, the waterscape is portrayed as a sphere where stark social hierarchies and differences were observed in the pre-nation state of Siam. Section 4.2 highlights the onset of Bangkok's terrestrial turn from the 1850s onwards. As Bangkok got increasingly captured by the global economy and drawn into imperial power relations, the royal project of *siwilai*, analysed as a collective assemblage of enunciations, forged new associations between modernity, the nation state and terrestrial living. Section 4.3 closely looks at the Cold War period when hydro-engineering emerged as a solution for altering the hydrological milieu of the delta and capital. Dams, dykes and polders emerge as symbols for this attempt to provide security against intruding water. This section also reflects on various forms of de-territorialisation that emerged in response to such efforts. Section 4.4 presents data that suggests that discourses of climate change begin to call into question the benefits of grey infrastructure projects. While some water experts and activists call for a greening of hydro-infrastructures in Bangkok, their desire to reviatlise the city's fluvial past is deeply ambivalent. Confronted by molar power structures

expressed through land ownership, and Ecosystem Services' potential to become a royal science, green solutions to climate change are embedded into wider molar flows in Bangkok (4.4).

4.2 ALONG THE CHAO PHRAYA: GEOHISTORY BETWEEN LAND AND WATER

To ease into the task of doing field work, I began my research by visiting some of the more accessible waterways of the city. Long before I gained access to the khlong communities in the northern district Huay Kwang, I explored the Chao Phraya River, the touristy Khlong Yai running through the western side of the city, and the Sean Seab canal in the central banking district (CBD). These sites weave together the ambivalent history and present status of hydro-urban relations in Bangkok and illustrate the complicated connections emerging among power, displacement and environmental change. Understanding this connection helps us to approach one of the key concerns that Deleuze and Guattari express:

> *"However speculative their anthropology may be, Deleuze and Guattari's point is that political issues arise not only out of socio-cultural or ideological differences, but from different ways of inhabiting the physical earth. Which is to say that as far back as our histories can reach, we find peoples who have come into being through their expression of the potentialities of the earth: each drawing out and elaborating upon the material-energetic possibilities of the geological strata they inhabit. And in this way, we get an intimation that, just as all 'history is geohistory', then sooner or later all politics is geo-politics" (Clark, 2016, p. 5).*

4.2.1 FLUVIAL PAST

A history of Bangkok, or Krung Thep as it is called in Thai, then begins not so much with the fixed and the static of strata, but with the fluidity of the Mea Nam Chao Phraya, the mother of all rivers. The history of the modern Thai capital also begins with the fall of the former Siamese capital Ayutthaya (founded around 1350-1767), which was located roughly 85 kilometres further north, engulfed by the same river (Terwiel, 2011 a). Today, Ayutthaya lies in (beautiful) ruins reminding visiting tourists and Thais alike of the crucial hydro-relations that secured its flourishing for centuries. Dependent on the seasonal rhythm of the monsoon, the ancient polity relied on an excess of water which made boat travel speedy and brought fish and fertile sediment to the lower delta. In the dry season, however, the lack of water could develop far-reaching consequences. When the Burmese king in 1767 waged war

against the Siamese monarchy, he besieged Ayutthaya during the dry season, when the protective moats around the city were dried up, rendering the capital defenceless (Terwiel, 2011 a).

Shortly after the fall of Ayutthaya to the Burmese in 1797, which involved the capture and deportation of many Thai citizens and members of the family as war slaves (Beemer, 2016), a new ruler of Chinese descent – King Taksin- took over power and established a new capital further south on the western side of the Chao Phraya. Thon Buri, which became a municipality of Bangkok in 1971, served as a temporary capital until King Taksin was assassinated and the current Chakri dynasty commenced its reign under King Rama I (Askew, 2002; Terwiel, 2011 a).

The historical importance of the river and the role of the monarchy for the development of the city is well remembered by Bangkokians. When I sat down with a Thai UNEP country officer to discuss the agency's work on climate change in Bangkok, we started chatting about the city and its historic transformation as a source for present-day climate change vulnerability. The interview gradually transformed from learning about challenges in designing and implementing climate change policies for the capital into a conversation about the socio-cultural significance of water in the development of Bangkok as a capital:

> *Interviewer: And why was the Bangkok development mainly extended to the eastern side?*
>
> *UNEP Country Officer: It goes back to the history of this dynasty… King Rama I said that this side has good connection to the land and also to the sea and so it was for trading purposes and then also Thonburi [the western part of Bangkok] side was too small. And also going to the sea on the south side was very difficult. So, Bangkok is closer to the east and the Thai golf and so it is trading purpose, security purpose and lastly it is distant from Myanmar our arch enemy (laughs).*
>
> *[UNEP Country Officer, February 2016, Bangkok]*

Water in this description emerges as a strategic as well as relational material. The hydro-geo interface was strategically evaluated and chosen for the new city to maximise the water's capacity to protect the new polity and to enable trade and transport. But, as Strang (2014) highlights, water has an additional, expansive component. It serves as a medium to connect and forge relations across bodies and scales, constantly spilling over and opening new lines for exterior relations. Bangkok's waterways speak of such expansiveness, as they were simultaneously used for mundane travels, commercial activities, security and warfare, religious ceremonies and leisure. The river moreover was essential for enabling the young polity's trade connections to both the Siamese hinterland and the Gulf of Siam, which made possible the lucrative trade with China (Askew, 2002).

While many of the waterways are gone now, the modern Siam Museum, located close to the Chao Phraya, depicts a fluvial urban past common in Siam's polities in a miniature model shown in image 4.2.

Image 4.2. Model depicting fluvial urbanism. Siam Museum, Bangkok. Own image.

In the Early Bangkok Period, commoners usually lived in houseboats or raft houses on *khlongs* (natural or human made waterways), or built stilted houses near the canals and rivers (Askew, 2002; O'Neil, 2008). While in

Europe's best-known water city Venice, the houses were anchored into the ground, in Bangkok's fluvial heyday in the mid-19th century, more than 7000 houseboats populated the city, hosting a population of approximately 350 000 people (O'Neil, 2008, p. 75). Terrestrial living was reserved for members of the large royal family or monks and novices of the temple (Terwiel, 2011 b).

Although Bangkok was frequently compared by European travellers and merchants to Venice and dubbed "the Venice of the East", the following quote suggests that the large presence of freely floating homes somewhat defeats such a comparison:

> *"However, even Venice, with its myriad canals that bring the sea into the space of the city, exists in opposition to the sea. The structures of Venice are supported by pilings that fix "ground" in place, insuring stability in an otherwise mobile, maritime environment. Urban life in Venice is achieved in spite of its integration with the sea. When high waters, the acqua alta, come to Venice, the normal life of the city comes to a halt"* (Steinberg, 2011, p. 2115).

Life on rafts and houseboats speaks of a different logic of organising urban environments, transport and commerce. In Bangkok, urbanism was not achieved *in spite of* the liquid streams of the delta, but precisely *enabled through it*. Mobile, floating homes had the distinct advantage of allowing commoners to simply follow the changing tides depending on the season. An American missionary wrote in terror about these frequent abandonments of places, fearing the ease with which the current could carry away the floating houses, taking them to new, provisional "homes" (O'Neil, 2008, p. 75). These anxious remarks foreshadow the conflicting views of social life between Westerners and Siamese commoners. At the heart of such conflicting views seems to be a Western insistence on conceptualising societies as rooted in particular places, rather than being constituted "by routes, or crossings, across space"(Steinberg, 2011, p. 2114). The boat landing places, rather than market places or boulevards, emerged as focal points for urban public life. Here commercial transactions happened, gossip was shared, turning these urban edgelands into veritable spaces of connections (Mateo-Babiano, 2012). Until today, the piers along the Chao Phraya River host multiple little stalls that sell drinks and snacks throughout the day.

Prior to the mid-19th century, roads only existed as simple elephant tracks or dirt paths along canal embankments, making terrestrial travel dangerous and slow (Mateo-Babiano, 2012, p. 454). The commonality of boat travel was even reflected within the Thai language as the word *khlong* itself simply referred to a way or route and did not differentiate between water and terrestrial paths in that period (Brummelhuis, 2005, p. 15). Ancient maps – even pre-dating the Ayuthaya period – demonstrate this by concentrating on depicting waterways that connect religious sites and polities, as well as showing river connections to the sea and ocean passages rather than demarcating land masses, political territories or terrestrial routes (Winichakul, 1994). In the absence of a linguistic differentiation between water and terrestrial path, however, three quite different types of *khlongs* predominated in Siam. *Khlongs* were dug either to shorten a meandering river; to laterally connect rivers that predominantly run from north to south in the country's delta; or to function as protective moats around urban polities (Brummelhuis, 2005, p. 18).

Khlongs emerged as provisional liquid lines cutting through the densely vegetated land masses of the Siamese delta region. In a historical report produced for the *Murray Magazine – A Home and Colonial Periodocal for the General Reader (1890)*, a Western observer speaks of fluvial mobility in Siam in those days involving human skill and intensive knowledge of the tidal interplays along the human-dug waterways:

> *"The rice-boat journeying across the country by way of tidal khlongs takes full advantage of the flood, be it by night or by day, struggles along gallantly at a rate of some five miles an hour as long as there is water to float the ship and then pits into the bank under some friendly tree-shade to wait till the next flood. Here the thick shelter of the bamboo-plaited domed roof serves as a protection from sun by day or dew by night … (E.B.M., 1890, p. 525)*

The struggle for finding passages in the maze of *khlongs*, lined by thick bamboo forests, resembles Ingold's (2007) observations of wayfaring practices by Alaskan Inuits. Through their journey, they turn into lines once they leave their huts, forcing passages through the snow (p. 78). Wayfaring as such can be thought of as an active process in which people make and sense or feel their way through landscapes that are continuously in motion, perpetually becoming and transforming themselves (Ingold, 2007). Wayfaring involves

the body of a traveller moving through a world that is animated by non-human beings. The Siamese *khlongs* are fluid lines carved into the delta's surface, allowing for a wayfaring that is dependent on non-human presences. To sustain oneself in these journeys, the line is a territory that lends itself towards fishing to sustain the wayfarer. Moving along the fluvial lines on boats or by swimming, by direct bodily contact with the fluvial material was a common mode of mobility that extended to the embodied knowledge of how people perceived their environments.

Thongchai, town planner for the Thai Ministry of the Interior, recalled in an interview:

> *For example in those days …[when Bangkok was still a water-based city] I remember that my grandmother told me that everybody could swim. But today – no! Thai people don't know how to swim that well anymore. […]… in those days the waterways were very, very important. People can travel along the khlongs. They can use its water and take a bath in front of the house . They can get food in front of the house. So many important things for the daily life!*
>
> *[Thongchai, January 2016, Bangkok]*

Following Parr in her observations of sensuous histories of change, the remark evokes an "embodied "lostscape"" (Parr, J. 2010, p. 3) that signifies not only a loss of a particularly watery milieu, but also a loss in tacit, bodily perception and interaction that bodies had previously developed within it. Parr draws on the notion of corporeal embodiment which, "elaborated [on] by Pierre Bourdieu as habitus, reveals sensory perception as the product of daily practice in time and place, and recognizes the sensing body as at once a physical receptor and a storehouse of historical and cultural knowledge" (Parr, J. 2006, p. 272).

The connection between hydro-history and history of displacement in the early Bangkok days shows that people's life on houseboats speaks of a potential habitus well adapted to hydrological circumstances. In particular within colonial and literary accounts by *farangs* of that time, the Siamese where frequently portrayed as an "aquatic race" (e.g. O'Neil, 2008). In non-

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conformance to such a racialised or stereotypical perception, the bodily attunement to the inhabited milieu speaks of an intuitive adaptation towards hydrological circumstances. Moreover, the profoundly *mobile urban lifestyle* defies imaginations that see developing nations in Asia as predominantly sedentary or "rural" and thus as univocally pre-modern (O'Connor, 1995). Attending to the inherently fluid or mobile hydro-geo-history of Bangkok speaks against the sedentary bias (Ober, 2014; see Chapter 2) expressed in much of the climate change and displacement literature that implicitly insists on sedentary rather than mobile lifestyles as the socially accepted norm.

Despite the extreme importance of water for the functioning of the new capital, Thai society still predominantly depended on the cultivation of rice and other produce for trade and subsistence implying a need for the socio-political organisation of human-land relations in addition to urban-hydro relations. During the Early Bangkok Period (1793-1873), there was no shortage of land for cultivation (Terwiel, 2011 b). The idea of scarcity was not present in thinking about land, as labour rather than land was a limiting factor within agricultural productivity. The organisation of human-land relations was mediated through the monarchy, as all land principally belonged to the King: "This is reflected in the most common traditional Thai expression for the king: phra chao phaen din (พระเจ้าแผ่นดิน), literally, "the exalted Lord Owner of the Territory"" (Terwiel, 2011 b, p. 514).

People desiring to cultivate plots of land borrowed it from the king. In return, the king was granted the right to tax farmers' produce. This system of taxation was highly complex, involving different amounts of taxation for specific mature fruit trees (ibid, see also: Kuasirikun, 2007). Apart from being directly drawn into the reach of the monarchy through taxation, cultivating land was further complicated by having to engage in wild life conflicts with tigers. Moreover, it involved close mediation with the spirit world, as building a house on land involved various religious ceremonies and the building of a spirit house to secure the blessing of the gods for the appropriation of the land for private use (ibid). Spirit houses are still widely popular in the city (see image 4.3).

Image 4.3. Spirit house in front of the BTS Station National Stadium, Bangkok CBD 2015. Own image.

While water served such a crucial purpose for trade, transport and communication in the polities, the rulers of the early Bangkok polity did not develop a significant "hydro-science" to manage or alter its availability. Rather, Siamese kings relied on the stable monsoon cycles that made in particular wet-rice cultivation possible. Historical sources suggest that temporary and ad hoc measures (e.g. the construction of simple dams or retention ditches) in times of crisis were the only measures taken by the Siamese court to regulate the flow of monsoon rain for agricultural purposes prior to the mid-19th century (Brummelhuis, 2005). Although the old Siamese court knew an institution called "kromna" (chamber or ministry of "rice growing") the actual tasks of this institution were probably limited to tax collection rather than an active involvement in agricultural politics or hydro-engineering of any kind (Brummelhuis, 2005, p. 23-25). What emerges as an "unsophisticated technological level of water management" (ibid., p. 29) in Brummelhuis's otherwise expert analysis of Siam's rice cultivation, might better be understood as a system crucially relying on multi-species infrastructure (Morita, 2016 a, p.2). Floating rice bears the potential of quickly extending its stem during the flood season, thus adapting quickly to altered hydro-realities. While other grains and weeds die in the seasonal monsoon floods, floating rice can withstand inundations of up to two meters. Furthermore, this way of cultivating rice did not require much human labour; ploughing, for example, was irrelevant. The yearly harvest was the only time when labour-intensive work needed to be done (ibid.). Nevertheless, skills and

expertise were needed for weed selection. Rice cultivation in the delta resembles Deleuze and Guattari's nomadic technique of harvesting water, letting it distribute itself in smooth space (Deleuze & Guattari, 2013, p. 443). Once the monsoon water subsided, the sediment it had transported proved fertile ground for the next harvest. The flood changed and shaped the landscape, dominating the perception of the Chao Phraya delta as aquatic territory (Morita, 2016 b). The rhythm of the annual monsoon thus dictated the agricultural activities needed. The hydro-infrastructure of the delta was hence not so much a bricolage of technical systems to store, channel or defuse water, but a multi-species assemblage of rice, weeds, monsoon season and humans, guided by the rhythm of earth, sun and water.

4.2.2 FLUVIAL DIFFERENCE

"Deleuze and Guattari argue that the state form has always been characterized by an internally coherent logic of composition that 'has always been in a relation with an outside and is inconceivable independent of that relationship' [...]. This exterior is not seen by Deleuze and Guattari to be disorderly, however, but is instead characterized by an irreducibly different, but coherent, logic of organization, based upon different uses of space or territory, and in relation to metrics or measurement, described as the smooth and the striated [...]" (Curtis, 2008, p. 215).

Although Siam had not yet emerged as a sovereign nation state during the early Bangkok period, the loose alliances formed between smaller polities and the capital established a power hierarchy (Terwiel, 2011 a; Winichakul, 1994). Bangkok's waterscape connecting the polity to distant spaces always involved the presence of a cosmopolitan mix of urbanites. The wealth of the Chakri dynasty, for example, and its complex system of rule through tributary gifts, depended not only on the watery trading routes, but also on the Chinese community residing in Thon Buri and later just outside the royal Ko Rattanakosin. This community functioned as important intermediaries in the expansive inter-Asian trading network (Askew, 2002, p. 19). Chinese migrants fulfilled various functions within the Siamese state as official merchants, farmers and tax collectors employed by the monarchy (Jiang, 1966; Cushman, 1981; Terwiel, 2011 a). Importantly, as foreigners the Chinese were exempt from the local feudal system and thus not bound to a master (Wongsurawat, 2016). Due to a constant shortage of labour, Thai subjects were forced into the so-called *phrai*-system (a system of personal serfdom of commoners to local

lords) for a fixed period of annual *corvée* labour. This local system of organising labour was only abolished in 1905 by King Chulalongkorn (Rama V), after it had outlived its economic viability. This exceptional freedom to continuously work for private gains, rather than being routinely forced to devote labour power to other tasks - paired with a privileged mobility that allowed Chinese subjects residing in Siam to leave and re-enter the country - made them ideal merchants. A significant portion of Chinese immigrants thus rose quickly in power, income and prestige, from outsiders to significant social status. Inter-ethnic marriages with Siamese women led to a role model of cultural assimilation, and today a significant portion of Bangkok's population claims Chinese heritage (Jiang, 1966; Cushman, 1981; Askew, 2002). Recent efforts to theorise migration see the migrant as an ambivalent figure who can sometimes capitalise on her or his foreignness, using it as an advantage and a social mark of privilege (Nail, 2015). However, a closer look at the circumstances of Chinese migration to Siam also show a moment of *expulsion* defined by Nail as a general dispossession or deprivation of social status (ibid, p. 2). Often, hunger, war and exploitation stimulated the decision to migrate to Siam and complicate the relationship between these mobile figures and the Siamese polities (Jiang, 1966; Cushman, 1981; Wongsurawat, 2016). The historical Chinese community speaks to the ambivalent social role of the migrant and moreover shows how difference was produced in the Early Bangkok Period, including racial differentiations.

Chinese merchants were not the only foreigners residing in the fluvial capital. Starting in the early 16th century, sojourner communities from India and the Middle East, as well as the Western world (first Portuguese, then Dutch and later French, British and US American) emerged on the scene, joining the cosmopolitan population of Bangkok (Beemer, 2016). With the steady expansion of Bangkok (first to the south and then to the north), more and more canals were dug to broaden the transport network. One of them, the *Khlong Sean Seab*, connected the new capital to the east to facilitate rapid movements of troops to Cambodia, and is one of the few remaining inner city waterways still in use (Brummelhuis, 2005, p. 22). Dug mostly by *covée* labourers and slaves of war, the canal's history is tied up with the displacement and exploitation of Cambodian, Laotian and Burmese war captives, a historical group of people largely unstudied (Beemer, 2016).

Image 4.4 Boat traffic along Khlong Sean Seab. Own image.

People subjected to the force of the *phrai*-system sought to avoid the appropriation of their labour by seeking shelter in the northern mountain ranges of Siam (Scott, 2009). As such, evading the power of the polities, and in particular the growing power of the capital Bangkok, was identified by Scott as a survival strategy employed by many commoners. State evasion involved putting oneself willingly into the margins of the powerful polycentric network of lords and their cities. The inaccessible terrain of upland South East Asia provided ideal conditions for withdraw from the forces of more sedentary and agricultural societies that were based on exploitative social hierarchies and forced labour. As Scott has demonstrated, the "typically Thai" view of hill tribes as backwards or uncivilised can be challenged when perceiving of their movements to the mountains as a conscious choice and strategic withdrawal from the violence of war and forced labour of the polities. The Deleuzoguattarian figure of the nomad comes to mind who is not so much defined by her travel and movement but by a particular relationship towards (state) authority: "What drives the antagonism between nomadism and the state is thus not a simple opposition, but the fact that the state is punctuated by its external limit that is not of it, and nomadism is haunted by the state that it attempts to ward off" (Kistner, 2004, p. 250). The nomad's existence is thus not reducible to a clear political opposition. Her movements might better be

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understood as various modes of evasion or avoidance rather than a complete break or definite escape from authoritarian state power. Waters' affordances and the inaccessible mountain ranges of Siam proved as fertile ground for such nomadic movements.

While the *phrai*-system captures and allocated the flow of labour, tax farming and the strategic employment of Chinese middlemen as merchants captures the flow of surplus and commodities in the early Bangkok period. The Siamese monarchy was heavily invested in reproducing the processes and structures of its own organisation by "capture[ing] the flows of all kinds, populations, commodities or commerce, money or capital" (Deleuze & Guattari, 2013, p. 449). Through the capturing of flows the not-yet state of Siam already built "fields of interiority" (Deleuze & Guattari, 2013, p. 449) in which it governed its people and territories. Mobilising (allowing international trade) and fixing (feudal labour) people was an important aspects of capturing flows. Racial distinctions seemed to inform social marking of bodies and their assigned circulation in space as the historically mobile Chinese community demonstrates.

Similar to Scott's (2009) argument about escaping corvée through retreating to the mountains, water's affordance might also have served as a means to evade the authority of the local lords in the very centre of the Siamese polities. Cultural historian O'Neil is drawing on a section of George Windsor Earl's *The Eastern Seas of Voyages and Adventures in the Indian Archipelago in 1823, 1833 and 1834* which gives an impression of the advantages of the fluvial houseboat lifestyle in the Siamese capital: "[…] These floating streets, nevertheless, possess their advantages. A troublesome neighbour may be ejected, house, family, pots and pans and all, all sent floating away to find another site for his habitation. A tradesman, too, if he finds an opposition shop taking away his custom, can remove to another spot with very little difficulty…" (O'Neil, 2008, p. 79). The urban-water relation thus not only served to protect the polity from intruders but also allowed for a form of evasive mobility of its commoners. Importantly, living on houseboats and working as artisans rather than farmers, was a way of avoiding taxation as well (Terwiel, 2011 a). The connection between the water and the emerging state continue to resurface in contemporary Thailand. This practice of retreating to the remaining waterscape for escaping police control still seems

to be employed by political activist, as an interviewee told me during my stay in Bangkok. During the street protests in 2010, academic and community expert Yanyong told me, many activist sought refuge in the remaining *khlong* neighbourhoods which are often informal settlements with confusing spatial outlines and easy access to boats. However, this section has also demonstrated that the mobility of people in the polity was fundamentally linked to socio-political realities (e.g. corvee labour and social/ethnic ranks) that might have contradictory or conflicting effects on human's mobility. Historical case studies that look at climate change and migration often lack references to the importance of social rules and norms that ascribed freedom of movement (or its absence) to specific bodies (Arenstam Gibbons & Nicholls, 2006; Pei & Zhang, 2014). For example in a comparative study of ancient Mayan decline, the the abandonment of Viking settlements in Greenland and the U.S. Dust Bowl migration the environment is taken as the predominant driver of all these diverse displacements (Orlove, 2005). Differences within the population with possible consequences for mobility options are marginalised here. As Deleuze and Guattari's remark about the *Urstaat* prove, even before the emergence of the contemporary form of the nation state, polities of all kinds were eager to govern flows. The historical organisation of mobility along ethnic and class lines, in this example might thus prove important to consider for present-day and future climate change and mobility as chapter 6 of this dissertation will show.

4.3 Terrestrial Turn: Territorialisation Between Power and Desire

Roads and railways may in time bring into existence a race of purely terrestrial Siamese. But for the present the population is, with few exceptions, amphibious.

Image 4.5. Image: Screenshot from "Boat Life in Siam" by E.B.M. published in Murray Magazine, 1890, p. 531.

As above quote foreshadows, Bangkok gradually turned terrestrial from the second half of the 19th century onwards. Abandoning the affordances of water's exterior relations diminished Bangkok's adaptation to the delta environment. Today the majority of the city is located on firm grounds.

4.3.1 SIWILAI AND THE TERRESTRIAL TURN

If Bangkokians were so well adapted to the delta conditions, why did they switch to terrestrial living, I asked, in one interview with a young officer working at the Department for Urban Planning in the Bangkok Metropolitan Administration:

> *I think it (changing lifestyles) happened in every city. Probably [..] hundred years ago when the industrialization from Europe or the US came to our country our people changed. They didn't use boats anymore but used cars and roads instead of boats. So they changed.*
>
> *[Officer at Department of City Planning (BMA),*
> *February 2016, Bangkok]*

The impulse to alter the urban spatial organisation, primary modes of transport and housing, are here firmly located within external influences. As the interview continued, I was moreover presented with a popular response naming more explicitly the arrival of colonial powers in the region:

> *Interviewer: So he [King Rama V] was a key figure in beginning land transport?*
>
> *Officer at the Department for Planning (BMA): Exactly, yes! And at that time I think the idea was to develop something because the English and the French came to our country and they needed our country... I mean because we had many resources like for example wood. And so we had to develop our own city on our own. So we had to show them that we [are already] developed.*
>
> *[Officer at Department of City Planning (BMA),*
> *February 2016, Bangkok]*

The strict censorship of any criticism regarding the monarchy has made it an accepted truism that the superior diplomatic skills and wise actions of the former kings of Thailand have secured both the country's independence and its long and successful path towards modernization (e.g. Terwiel, 1992; Winichakul, 1994, 2000; Lysa, 2003, 2004, 2008).

Working on the level of a collective assemblage of enunciation, the discourse of *siwilai* (a Thai transliteration of the English word "civilized"), seems to have been the driving motor behind the changes that transformed Siam into a modern nation state and that ultimately enforced radical changed in the human-hydro relations of the delta (Lysa, 2008). *Siwilai* can be perceived as a particular elite political project that sought to fend off colonial ambitions of Western powers by demonstrating the advanced status of the Siamese kingdom whilst it simultaneously served as legitimation for centralising power and turning the loose alliance of Siamese polities into a modern nation state under absolutist monarchic rule (Winichakul, 1994, 2000; Jackson, 2008, Lysa, 2008).

The hydro-urban history of the capital and delta got radically transformed through *siwilai,* resembling what Deleuze and Guattari wrote about changes and new assemblages in their observations on Kafka's work:

> *Two problems enthrall Kafka: when can one say that a statement is new?—for better or for worse—and when can one say that a new assemblage is coming into view?—diabolical or innocent, or both at the same time. […] An example of the second: the diabolical powers of the future that are already knocking at the door—capitalism, Stalinism, fascism. It is that which Kafka listens to […] the sound of a contiguous future, the murmer (rumeur) of new assemblages of desire, of machines, and of statements, that insert themselves into the old assemblages and break with them (Deleuze & Guattari, 1986, p. 83).*

Siwilai can be perceived of such a new assemblage –diabolic, innocent or both at the same time- that radically broke with previous spatio-political organisations in Siam. As a combination of power and desire, statements and machines, *siwiliai* was geared towards the stratification of relations to achieve a new form of "equilibrium" a stable or steady state within a system after a phase of turmoil (Bonta & Protevi, 2004, p.14). *Siwilai* was a colossal double undertaking that aimed at conserving heterogeneous internal power relations to protect the interests of the Siamese elites while at the same time involved rapid socio-cultural changes to appear progressive and modern in the eyes of colonial British and French aggressors (Winichakul, 2000). The new assemblage thus articulated power through a double pincer, internally over the Siamese people and externally towards Western powers.

The intimate connection between urban form and notions of modernity speaks of how social power circulated between the styles of town houses and the enunciative assemblage of "siwilai". Just how far fetching and encompassing this project of *siwilai* was, can be seen in the BMA officer's reflections who points out that even today discourses of modernity and particular styles of housing are still coupled:

"And even the design of houses changed because we think it is modern. We used to have wooden houses on stilts before. Now we can only see [them] in the rural or suburban areas but in the urban areas we don't see that kind of house anymore and when we built [new] town houses or modern villages they will built modern houses. So, the design changes because of everything: urbanization or civilization... yes! (laughs)

[Officer at Department of City Planning (BMA), February 2016, Bangkok]

Civilisation then emerged as a new *raison d'etre* for the Siamese crown that started to send expeditions into the Siamese jungles and northern hinterlands to create maps of its territory and learn more about the Siamese population. In particular the cartographic missions have received academic attention as they decisively contributed to what Winichakul (1994) termed the emergence of a "geo-body" of the Siamese nation. The sudden appearance of English and French colonial troops in present day Myanmar, Malaysia and Cambodia forced the Siamese monarchy to develop a conceptualisation of its borders and national territory. Winichakul has elaborated how through cartographic depictions the nation of Siam developed an appreciation of its territorial space (geo-body) that could be mobilised for national imaginations needed for becoming a sovereign state. Crucially, one can add that this geo-body *had to be* terrestrial, not fluid. In order to be rendered as a fixed and stable entity, Siamese ancient tradition of depicting routes through space by drawing maps of rivers, khlongs and coast lines was displaced by scientific Western depictions of landmasses and mountain ranges. The new collective siwilai assemblage thus swiftly led to the break with indigenous spatial knowledge (Winichakul, 1994). *Siwilai* did not only territorialize and striate the physical space occupied by Siam but also involved a rupture of traditional

Thai perspectives on time itself. In order for thinking about ones civilization as hedging towards a linear trajectory of "civilisation" the eternal return of static events through Buddhist perceptions of re-birth had to be re-negotiated (Vandergeest, 1993, p. 143; Winichakul, 2000). This new concerns with the linearity of time were also reflected in the systemisation of using past and future tense in the Thai language (Vandergeest, 1993, p. 144). *Siwilai* thus also produced a "temporal other" (Winichakul, 2000) that sharply distinguished between Bangkokians and the rest of the population.

Co-emerging with the mapping of its territory, political reforms were initiated that sought to integrate and stabilise the previous fluid systems of paying tribute and pledging allegiance with a salaried bureaucracy, mainly comprised of the extending royal family (Vandergeest, 1993, p. 140) and a new efficient accounting model for collecting taxes (Kuasirikun, 2007). As Winichakul (1994) has masterfully shown further infrastructure projects to improve transport and communication within the new geo-body were then initiated, often depending exclusively on foreign know how and financial assistance. The Royal Railway of Thailand, for example, strategically reached towards the Northern provinces to facilitate rapid troop and information flows form the capital to the territorial fringes. Slowly, through cohesion, authority and force the former loose alliances between distant provinces were more closely enrolled into the national territory (Winichakul, 1994, 117).

However, perceived as a specific kind of assemblage, *siwilai's* workings of displacing practices and knowledge and forging radically new alignments and connections across time and space are not sufficiently explained through the working of fear of Western colonialism and strengthening power relations over local populations alone:

> *"… the attention to threat and anxiety has obscured another motivation for change that was not less true, namely, desire, as if the Siamese elite were forced to act for survival and the quest for siwilai were solely tactical. While they were anxious, the Siamese elite were not hostile to Westerners. Many generations of Thai elite since the middle of the century were very fond of the farang (Westerners), and their craving for things Western was well known" (Winichakul, 2000, p. 532).*

A Deleuze-Guattarian understanding of desire is helpful here as desire is not understood as stemming from a specific "lack" but constitutes an affirmative flow of energy. Rather the conflicting, or schizophrenic (as Deleuze

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and Guattari might have called it) position speaks of other forces, too. "…the schizophrenia produced within the capitalist machine [and its imperial expansion] is codified and regulated as much as it unleashes energies, desires and intensities" (Leonard, 2003, p. 194). Desiring is the primary source of production and thus the emergence of Siam as a nation state is not reducible to semi-colonial oppression or integration into the capitalist world market. Perceiving of desire as a source of production, also brings it close to an affirmative understanding of power, a power that enables (-power to) rather than forces ("power over") (Patton, 1994, p. 159; Allen, 2004).

During both King Mongkut and King Chulalongkorn's reigns, the productive force of desire inspired the construction of hundreds of new roads, supplemented by railway and telegraph lines needed to facilitate prestigious terrestrial travel and speedy communication. The profound transformation from water to land-based city (which reached well into the 1970s and 80s) can be seen as a particular megaproject that, as Parr (2001) has highlighted, crucially involved sensory histories:

> *Megaprojects have palpable sensuous histories. These are events which, in the event, cut adrift from their familiar corporeal reference points all the bodies that witness and then bear witness to them. They radically intervene to disorder the local sensory order. […] This reordering of the connections between sensation and perception, perception and cognition, cognition and self is the indispensable sensuous history of the megaproject, before, during, and after its unevadible longue durée. (Parr, J. 2001, p. 728)*

The first road in Bangkok – Charoen Krung (New Road) – was built in 1864 due to a request by Western foreigners residing in the city (Brummelhuis, 2005, p. 63). The building of this road brings together the affective and sensuous that shape Bangkok's urban-hydro-geo-history. Roads, the foreigners argued, were not only needed for leisure walks but also conductive for people's health in the city; and thus they persuaded the monarchy to invest in their constructions. After a visit to Europe, King Rama V started to build Ratchadamnoen Avenue, inspired by the grand boulevards of Paris and London. His fascination for European art and architecture is well-preserved in his letters written during such travels, which always seemed to combine diplomatic missions with shopping tours and cultural activities (Chonchirdsin, 2009). (A tradition kept alive by the late King Rame IX and his

wife, who toured Europe and the US to seek alliances and support during the Cold War period (Handley, 2006)).

The name of Ratchadamnoen Avenue translates to "King's Walk", enshrining the connection between monarchy and this new urban form (Navapan, 2014, p. 7). The construction itself demonstrates the vast collection of expertise (the building of the road was executed predominantly by Italian architects), materials and symbolism. Mainly used for royal parades and ceremonies, the street until today features images and status to pay homage to the royal family (see image 4.5).

Image 4.6. Ratchadamnoen Avenue, Bangkok, 2015. Own image.

The engineering of these new urban spaces involved the careful planning and crafting of affective atmospheres along the roads. The monarch, for example, insisted on trees lining the streets and electric lamps to illuminate the new and modern streetscape, to impress both foreigners and local subjects with the modernity and beauty of the space (Navapan, 2014). Trees were planted to consciously alter the micro-climate along the roads and provide coolness and shade for an emerging number of pedestrians. As a depository of force, affect seems to be an integral part of the collective *siwilai* assemblage. Affects were meant to be "weapons of war" (Deleuze & Guattari, 2013, p. 415) and directed towards the *farangs*, whose approval of the beautification schemes were eagerly sought. However, as sources suggest, engineering affect is a difficult task and many foreigners refused to be impressed with the efforts of the Crown. English language newspapers of that period eagerly discussed the different aspects of *siwilai*, such as new court

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rules and dresses or the remaking of urban space, and often judged the attempts of the crown harshly, demonstrating that affect (pre-cognitive and embodied responses) tend to escape the desires that unleashed them (Chonchirdsin, 2009). As such, the power of affect here is closer to what Allen (2004) defines as seduction. It resembles more an invitation which the recipient is capable of declining..

4.3.2 FEARING EXCESS – FIXING TERRITORY

With the new murmur of civilisation arising in Siam, the increasing terrestrialisation of the capital led to a symbolic transformation of water. Water turned from a source of protection against enemies and liquid lines of connection to a source of anxiety at the beginning of the 20th century. In particular, foreign doctors initiated debates on questions of urban hygiene and water provision. Shortly after the turn of the century, the *Siam Society* invited doctor H. Campbell (1906) (fellow of the royal institute of public health and the principal medical officer of the local government of Siam) to talk about weather and climate in Bangkok and to give advice for the recruiting of Europeans working in Siam. Health is discussed in direct relation to temperature and water availability/quality throughout his lecture. The seasonal decline of the flow of the Chao Phraya River is directly linked with the occurrence of infectious disease like cholera: "Not only is it very hot during March and April, but the sanitary conditions of Bangkok are then at their worst. The level of the river is at its lowest, Cholera is often epidemic and, so far as my experience goes, Typhoid Fever takes on its severest aspects at this period of the year" (Campbell, 1906, p.8).

The circulation of the water is of paramount importance to washing away the bacteria and filth accumulating during the dry season. The stagnation of water in the *khlongs* or in private water tanks is seen as a threat to human health and well-being, as it constitutes an ideal breeding ground for mosquitos, bacteria and other insects. *Khlongs* as vernacular aquatic infrastructure are increasingly problematised in this period. Better sanitation of the city is furthermore seen by the growing and influential number of *farangs* as the key to improving general health in the capital, linking to concerns about hygiene in other European and colonial cities around that time (Gandy, 2014). Importantly, the waterscape slowly begins to change its significance for the city as new connections (water + bacteria + sickness)

create further dimensions of meaning. Urban water turned uncanny and thus needed new ways of being controlled and channelled[4].

Concerns about hygiene (and later irrigation) correspond well with Deleuze and Guattari's observations on hydrology for nation-state building. The state, they write, eventually needs a hydraulic model different to the "nomadic" way of harvesting rain, as the state seeks to "subordinate hydraulic force to conduits, pipes, embankments, which prevent turbulence, which constrain movement to go from one point to another and space itself to be striated and measured, which makes the fluid depend on the solid..." (Deleuze and Guattari, 2013, p.423). *Siwilai* emerged as the collective assemblage of enunciation, enforcing the striation of national territory and altering the fluid geo-hydro-history of the delta to make the "fluid depend on the solid". The flooding event of 1908 makes visible the consequences of the emerging re-organisation of the delta's waterscape. This historical flood is seen as an event allowing for the mapping of its "potential to break with existing frameworks of understanding" (Patton, 2009, p. 43)

In 1908, an extremely heavy monsoon season caused widespread flooding in the delta. Although a Dutch engineer was hired by the Crown to develop an integrated irrigation scheme for rice cultivation in the Chao Phraya delta in 1902, available funds limited these ambitions and only a number of smaller hydrological projects like the installation of sluice gates at some of the major *khlongs* running through Bangkok could be realised (Brummelhuis, 2005, p. 265). The newly constructed sluice gates proved to be of ambivalent success during the inundation, as they were not well integrated into the regional *khlong* system. The responsible engineer, van der Heide, pushed for the creation of *khlong*-committees as a response to the flood - a forum where farmers met to discuss their water needs and reported the depth of their

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[4] It was not until 1965 that the Thai government returned to the problem of sanitation and drainage in the city and set up a committee to employ a consultant team of engineers to draft a master plan for sanitation and flood prevention for the city of Bangkok. In 1968, a team of consultants was then selected and prepared a plan for transforming the canal, sewage, waterways of the city (Lawler & Cullivan, 1972). The most dominant topological feature of the capital presents the greatest challenge for drainage systems, as Bangkok is extremely flat. Many of the existing drainage systems are thus easily submerged by only little amounts of water and can't adequately channel rain water into the canals and rivers leading to the ocean. The drainage network and the canals were routinely used by inhabitants to dispose of various types of household waste, leading to further blocking the drainage system.

fields' inundation levels. The partial re-engineering of the delta demonstrates how infrastructures are rarely built from scratch but are rather embedded into pre-existing socio-spatial orderings (Morita, 2016 b). As such, the flood foreshadowed many of the contemporary problems Bangkok is encountering, which are amplified by the ill-aligned palimpsest of partial infrastructural measures. The creation of the *khlong* committees reveals that by 1908, a situation had emerged where people began to demand protection from floods and the yearly excess of water during the monsoon season was perceived as problematic (Brummelhuis, 2005, p. 267). The committee meetings thus gave voice of the people who were directly affected by the engineering measures. In the moment where demands about water levels were articulated, the figure of the citizen makes a short appearance. This appearance might not be coincidental, as state formation involves new subject formations such as the working class or political citizens (Patton, 1994, p. 162). As such, the flood in 1908 signals a new human-hydro relationship, characteristic of the slowly changing perspective from fluvial to terrestrial space in the delta, in which the excess of water constituted a source of anxiety and political debate, or even contestation. Deleuze and Guattari refer to such moments of contestation as an "experimental surge" (2013, p. 427) in which the minorities of a state articulate certain claims that open up to something that goes beyond them.

The emergence of the nation states through the collective *siwilai* assemblage speaks of a de-coupling of land and water in the delta. The inter-species assemblage, as Monita (2016 a & b) has termed it, slowly emerged as two differentiated systems, one fluid and one fixed, where in particular the affordances of land were harnessed for political gains, such as creating a national territory. The *siwilai* assemblage was geared towards striating state space, and in its wake entrenched the terrestrial/ fluid dichotomy within the delta. The re-conceptualisation of urbanity itself as terrestrial became crucial for all further developments in the city.

4.4 CONCRETE AND NATIONAL DEVELOPMENT

Nationalism grew strong under the military government that took power after the 1932 coup d'état that ended the absolute reign of the Siamese monarchy. In 1939, Siam was renamed Thailand to align the name of the country to the name of the Thai race, reflecting the strong nationalist sentiments and dominant ideology of the period as well as a certain chauvinism that

privileged the people of the delta region rather than minority groups of the North or South (Winichakul, 1994). Thai military leaders were inspired by German and Italian fascism, and the country closely cooperated at the side of the Japanese during the Second World War (Baker & Phongpaichit, 2009). The onset of the Cold War, however, and its polar logic of international block constellations, brought Thailand quickly onto the Western side (Kislenko, 2002). Thailand advanced as the US's strongest ally in the region, with far-reaching consequences for the former's socio-economic and political development (Askew 2002). American influence reached particularly deeply into the everyday life of Thai people through a variety of "development aid" projects (Terwiel, 2011 a; Baker & Phongpaichit, 2009). The period between 1950 and 1970 thus marks a second phase of accelerated, Western-inspired transformation in the country and capital that confirmed the terrestrial turn of Bangkok's spatial transformation (Askew, 2002).

4.4.1 COLD WAR, INFRASTRUCTURE AND NATIONAL SECURITY

The US granted Thailand financial support for the construction of highways and airports to facilitate rapid troop movement from Thai-based US troops (Molle, 2005, p. 8). Through these new roads, remote villages became connected to the capital, leading to an unprecedented increase in internal migration and movement (Rigg & Salamanca, 2009, p. 2011). The roads also led to an increasing flow of mobile Thais searching for jobs in the capital. Since the 1970s, this flow was joined by a stream of refugees crossing the western and northern hills in search of shelter from the violence of their home countries (Vietnam, Cambodia, Laos) (Lee, 2006; Davies, S.E. 2006, 2008). Violence against these refugees was documented in news articles, which revealed how logics of citizenship pitched poor villagers against even more destitute Cambodian refugees in the border regions (Vandergeest, 1993, p. 153). Once again, the border region of the country played host (some of the refugee camps are in continuous use to the present) to people desperate to escape the power of governments, subjecting themselves to harsh socio-economic conditions in so-called "temporary shelters" to avoid prosecution (Horstmann, 2014).

But apart from the geo-politics that are embedded in the paving of roads, the accelerated terrestrial turn during that development period

involved historical bodies that grappled with their changing environments. As Parr writes:

> "Neither the ahistorical body nor the physical body trussed up as a discursive construct alone is going to take us far along the path towards a more sensuous history […] This is the historical body, which remembers, years later, how to ride a bicycle, which recognises through the tiller the pull of a particular river eddy, pauses with alarm at the absence of a particular sound, and knows from a change in the breeze that a storm is coming down the valley" (Parr, J. 2001, p. 729).

The accelerated phase of change that set in during the 1950s has displaced many sensory fluvial experiences of Bangkokians as well as respective embodied forms of knowledge. Thongchai who smiled when he talked about his grandmother's stories about traditional lifestyles in Bangkok, as already mentioned evidenced that. In his recollection, a historical body that remembers emerges.

Yet, in particular, living with water was increasingly seen as obsolete, as the city emerged as a hub of terrestrial modernity in South East Asia (Askew, 2002). After the Vietnam War, mass tourism set off and industrialisation led to a massive catching-up of living standards in the capital and provinces (Baker & Phongpaichit, 2009). Infrastructural improvements and cheap air travel have since further extended the circulation of expatriate, backpacker, refugee and migrant bodies to and through the capital of Thailand (ibid). In terms of geo-physical change in the delta, the developmental assemblage continued, rather than broke with the terrestrial turn of Bangkok that was once initiated by the Chakri dynasty under their quest of *siwilai*: "After phases of disruptions were lines of flight change systems and push them to (or over) their thresholds to achieve qualitative changes, phases of "cooling down" emerge where new strata emerges from cooled down (thus slowed down and stabilised) properties" (Bonta & Protevi, 2004, p. 24).

After the assemblage of *siwilai* had disrupted the fluvial mode of urbanity and imposed a terrestrial logic, the new development assemblage became a vehicle stabilising these new properties of urban life itself. In its wake, the state re-discovered the old irrigation plans of the Dutch engineer van der Heide. With support of the Food and Agricultural Organisation, the Cold War period witnessed the realisation of the postponed plans of the Dutch

advisor (Molle, 2005). The creation of several large dams in the northern part of the country and an increase in lateral *khlongs* channelling the water horizontally from east to west contributed to the rise of export-oriented agribusiness in the delta (Molle, 2005). These interventions led to a novel association between water and energy in the delta. Water was now increasingly seen as "matter-energy [that] in all its excessiveness is as much a propellant and provocation of organized social life as it is a resource to be used or an object of control" (Clark, 2016, p. 13). The engineering efforts undertaken upstream the Chao Phraya river now aimed to transform the nomadic flow of the monsoon into fixed and manageable circuits that could not only provide water for farming but also appreciated water as a viable power source needed for the rapid economic expansion and industrialisation of the country. The extension of agricultural activities, industrialisation and capital led to increasing competitions over water between Bangkok and the delta (Molle, 2005, Morita, 2016 a, b). While more and more *khlongs* in the delta allowed for water to reach extended rice-growing sites, the capital abandoned its *khlongs* and purposely filled them to make room for modern town houses and terrestrial transport (Davivongs et al., 2012). Today, *khlongs* most commonly serve as open sewage, only in Bangkok.

Image 4.7. Khlong used for sewage and drainage purposes in Huay Kwang district, Bangkok 2015. Own image.

Cars, motor bikes and detached town houses in the suburbs of Bangkok advanced as an undisputable sign of development in the city (Askew, 2002; Baker & Phongpaichit, 2009). Despite activists' insistence on the necessity to save green spaces for a better urban micro-climate, Thongchai from the Town Planning Department was less optimistic about people's aptness to preserve traditions and urban nature. When I asked him why people don't enjoy living on houseboats anymore, he answered with a big ironic smile. Shrugging his shoulders a bit, he said that people will only ask the following question when it is suggested they should return to living on houseboats:

"If we live in a floating house, can you provide parking space for us?"

[Thongchai, January 2016, Bangkok]

Along with a preference for cars, Thongchai says that modern town houses, most particularly the condominium, are now the preferred housing style, especially for young Bangkokians. Research on the condominium boom suggests that his assessment is right (Sheng & Kirinpanu, 2000; Askew, 2002; Moore, 2015).

Development can be seen as a machine that works through the "emergence of novelty by combination", as Gidwani (2008, p. 73) has termed it. Through bringing together new heterogeneous parts into the assemblage, a novel effect is created. Townhouses and the enduring material qualities of concrete speak of such an effect, as the interview quote above shows. Changing material compositions of the city only became fully realised in the second half of the 20th century, and mirror an enthusiasm for concrete modernity in other cities (Munuchin, 2013). In an interview with a couple of environmental NGO activists, I learned:

I mean you go to … hmmm… let's say [a village] in the south and anywhere along the highways you will have these mouldy houses, these mouldy concrete houses! And it is because they got rid of the stilts and then what happens is you get all the moisture and the humidity from the ground [in the house]. And so the houses are completely damp! And […] I mean it is just one

generation [in] that the houses built on stilts [were] replaced with concrete structures. And I think it is maybe because of social values, that we made them feel inadequate or feel inferior if they still live on stilts, you know? Concrete houses are a kind of symbol of moving ahead in the social strata. That is a very worrying sign. Everyone is abandoning [...] traditions, within just one generation!

[BIG TREE female, February 2016, Bangkok]

Concrete advanced as a cheap, modern and stable building block in the city, replacing the vernacular wooden and bamboo structures of typical delta settlements. Thongchai recalls:

Thongchai: Today... I think... if you ask the old people: why did the floating house disappear? They will say: It is too costly to maintain [them]. Because bamboo is expensive now. It used to be cheap. Today... we can only get bamboo from Burma and Cambodia.

Interviewer: And in the past ...?

Thongchai: We just took it from the jungle in the West. When I was young I still remember travelling through these huge bamboo forests... With bamboo stems sooo thick [gesturing]. Like 10 inch in diameter or so.

[Thongchai, January 2016, Bangkok]

The cutting and clearing of woods and forests in the delta for urban and agricultural use turned bamboo into an expensive commodity despite its previous abundance in the region. Bearing the symptoms of a royal science, concrete then advanced as the chosen material to represent development. Deleuze and Guattari write about royal sciences in their *Treatise on Nomadology*, where royal sciences always belong to the state that seeks a scientific model to reproduce, order and striate space: "Stone cutting by squaring is opposed to stone cutting using templates, which implies the erection of a model for reproduction [...] (Deleuze & Guattari, 2005, p. 368)" In order to unleash an enduring acceptance of such sciences: "the royal sciences,

for their part, also surround themselves with much priestliness and magic" (ibid. 373). Concrete is moulded and shaped to fit into desired forms, its potential to be shaped and reinforced having "expanded the plastic potential of material forms" (Munuchin, 2013, p. 239). This potential, however, seems to be a always expressed in its actualisation. Whilst the old water infrastructure was laden with exterior connections, virtual potentialities and excess, concrete roads are characterised by a materiality that involves interior composition, (seemingly) enduring shapes and densities. and as such might be less open for heterogeneity once the concrete shapes are assembled. In a similar case of modernising Buenos Aires, it was argued before that "it [concrete] acted as a material testament to and articulating element of a modernising discourse that associated progress and social development with the technical and constructive ability to inscribe and disseminate impressive public interventions" (Munuchin, 2013, p. 240).

As such, the new phase of road construction and urban development signals a renewed will to stratify urban space and fixate forms and functions on the terrestrial level. The royal science *par excellence* of the development machine that fully exploited concrete's capacity to actualise these new urban forms was engineering.

> *… and it is kind of like that that maybe we were made to believe that engineering is everything. And [that engineering] has an answer to everything. Like whenever there is a problem you just call an engineer and they build something permanent.*
>
> *[BIG TREE activist female, February 2016, Bangkok]*

The magic of the royal science firmly gripped the Thai people, in particular as many of the concrete projects of development were supported, sometimes even designed, by the cherished "Development King", Rama IX himself (image 4.7) (Handley, 2006; Blake, 2015).

Image 4.8. Machine to increase oxygen level in water. Invented by the late Rama IX. Lumpini Park, Bangkok, 2015. Own image.

Within the capital, public ponds feature the king's invention of a machine to ventilate air into the standing water, and his experiments with introducing water hyacinths in the *khlongs* to purify the water are well-known (Chunkao et al. 2012). Thongchai reflected on flood measures, pointing out that:

> *Mostly they are concrete structures. They are all engineers. They enjoy hard measures. Because people love these structures… you know. They can touch them! Even though they are ugly structures… because the engineers have convinced the people that such structures can protect them… you can see them! They are so high, these walls. They can, but some people say, now I cannot see the river anymore. I need to climb about the wall to actually see the river…*
>
> *[Thongchai, January 2016, Bangkok]*

The affiliation among (hydro-) engineering, development projects and modernity have been attested to before (Kaika, 2006; Haines, 2011). Haines shows how plans for large-scale dam construction for progress in India outlived colonial rule and were actualised only under independence. The enduring connection between modernity and hydro-engineering thus transcends the political divide between colonial rule and independence.

Foreign expertise was needed in Bangkok to realise the ambitious engineering projects, prolonging the need for foreign advisors who now – in

the figure of the expatriate – came to Bangkok. These global flows of urban forms, expertise, materials and capital continue to reshape many cities across the Global South as part of development machines (Harris, 2013). In Bangkok, the development initiatives that drew a connection between roads and national security expanded their protective use towards natural disasters. While both the Thai state and American advisors saw the replacement of waterways with highways as a necessity to realise national security, highways were also seen as a new source of protection against flood water (Molle, 2005). After floods in the 1980s, the so-called "King Dykes" were constructed, elevated highways that were designed to protect the inner city from flooding (ibid.; Blake, 2015). These dykes speak of another dimension of volume within the terrestrial turn of the city, making elevated infrastructures appear more secure than flat ones. Again, the naming of the dykes signals a continuous strong connection between the monarchy and national security as well as the monarchy and concerns over the flow of water (Chunkao et al. 2012; Blake, 2015).

4.4.2 LIMITS OF NATIONAL SECURITY

Crucially, the period of development also saw the replacement of traditional fluvial wayfaring in Bangkok with what Ingold (2007, p. 79) characterises as "transport". In his account, the difference between the two modes of mobility does not rest in employing a source of energy beyond one's own moving body, but rather in the difference of moving and being moved. In transport, there is a disconnection between the moving body and the milieu surrounding the body. The person in transport is becoming a passenger that gets moved, leading to a more passive perception of one's own movement and surrounding environment (Ingold, 2007, p. 78). The introduction of the private car thus not only demanded the alteration of the cityscape from fluid to terrestrial but also altered the sensing, historical body living through the change. Environmental activists told me that it was precisely their effort of getting out of cars and buses and starting to walk and cycle more around Bangkok that spurred their perception of change and triggered their eagerness to become more active in the struggles to preserve Bangkok's urban parks and trees:

> *We started [our NGO] because we are all city people*
> *who … well I guess we all commute by walking, cycling*
> *or taking the BT. We are not addicted to our cars. And*

when you do that, you notice the change in the air, in temperature, in the green spaces. And you notice right away that these spaces are disappearing. [Walking along urban parks] you still get the refreshing air and the sight of the leaves, the shade from just walking by.

[BIG TREE activist female, February 2016, Bangkok]

This remark connects well with Parr's observation that linguistic and cognitive knowledge alone may not suffice to appreciate the complexity of bodies registering change:

The linguistic does not limit what the body can know. We know what we cannot tell. Without reference to the word, the body recognizes and attributes meaning to physically and temporally specific sensations. It is the base of timely knowledge - material, tacit, beyond words - that will be the foundation of a more sensuous historical practice (Parr, J. 2001, p. 732).

What Parr describes as a "sensuous historical practice" might here be seen as a sensory engagement with the world that in fact may open more politically informed practices that may eventually contribute towards pushing for more open urban futures. Crucially, the sensory experience of losing urban nature has already propelled some people in the city of Bangkok towards action, towards resisting particular forms of urban development and struggling for alternatives. This line of inquiry will be further explored in chapter 6 of the dissertation. The power to be affected by change and to translate affect into action seems to be an important step to moving from imagining futures to fighting for just and open ones (Braidotti, 2010). As such, it seems, struggles over urban development are crucially linked towards wider questions of fair climate futures. Moreover, *khlong* community leader Auntie Lek, who represents an informal settlement at Khlong Bang Sue in the northern district Huay Kwang, also assessed the constructions of roads in her neighbourhood more ambiguously. She showed me her small waterfront community and told me that the national security achieved through the road construction did not make her life in the community safer. Throughout her many decades in the community, she has witnessed the transformation of the city from water to land-based city herself. From her point of view, the integration of her community through an ever-expanding road network made

the space more vulnerable. "With the roads came more and more thieves and thugs from outside the community", she said. The easier access to the former remote space in the urban fringes is thus not always preferential. It seems that the aspired-for national security might have backfired, increasing the risks for the individual or particular communities.

While the previous accounts have foregrounded the role of desire by human actors in the transformation of the waterscape, assemblage theory also opens avenues into utilising desire as an explanatory, yet impersonal, force (Bennett, 2010). It is here where the other dimension of an assemblage – the machinic assemblage – can be usefully drawn on to discover effects of non-human resistance to the transformation of the city. The material re-assemblage of the urban sphere proved fertile for such effects to emerge, showing how matter itself is animated and speaking to the vitalist ontology used in this dissertation.

The continuous striation of Bangkok's urban space through development initiatives by the state increasingly involved "dimensions of depth" (Crogan, 1999, p. 139) reaching deep below the surface. While the fluid territory of the delta city now appears as solid and fixed, a massive reengineering beneath the surface was necessary to create such a stabilised effect. The molecular flows of subsurface water, however, continue "existing as a vibrant multitude beneath any molar formation" (Robinson & Tormey, 2010, p.23). In section 4.2, the notion of desire was seen primarily as a capacity of the ruling class who desired *siwilai*. But desire, in a truly deleuzoguattarian sense, appropriated to tell the urban-hydro-geo-history of Bangkok, also has a non-human dimension, rooted in the materiality of life itself: "Matter, as intensity, has a tendency of desire: this means that it is oriented beyond itself, not to something it lacks (for that would mean desire of one thing for another), but towards other intensities or forces of desire. As such, desire is the force that animates combinations and movement. The terrestrial turn of the city had to reckon with the undisciplined flow of ground water and the forces unleashed by it. It is precisely this impersonal force of desire which quickly began to confront the royal science of engineering and which until today contributes to the unravelling of the cityscape. A slow process of de-territorialisation emerged during the very attempt to fixate the city on terrestrial space due to the subterranean clay sediments that

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Zalasiewicz (2009) has beautifully described: "The floating ions snap into place, as in a chemical garden, to form microscopic flake-like crystals, a hundredth of a millimetre across or less. Clays are the main ingredient of the Earth's signature sediment: mud" (Zalasiewicz, 2009, p. 21).

In 1969, Bangna-Bangpakong Highway, a 55-km long major highway connecting the Bangkok urban area with the eastern part of country, was opened. Ten years later, a study found that the highway had severely "sunk" due to the underground conditions and the frequent heavy loads transported on it (Bergado et al. 1990, p. 136). The original highway elevation of between 0.8 and 0.6m was down to an average of 0.6m only a decade later (ibid. p. 139). The new highways were built on what one perceived as a stable surface; however, underneath this surface the subterranean is in flux and highly dynamic due to the material composition of Bangkok's soft clay underground (Paveenchana & Arayasiri, 2009, p. 181). Building highways in the city requires a profound reengineering of the subterranean, where large concrete pillars must be pushed beneath the roads to support the weight they are meant to carry. The high content of subsurface groundwater otherwise destabilises the road's fundament. In zones where highways are joined with bridges or buildings, cracks in the asphalt appear when the highway is continuously settling deeper into the soft ground (Bergado et al. 1990). A slow process of de-territorialisation is at work constantly in the city, where the subterranean is undoing the urban surface. Through the unprecedented growth of the capital, drilling for ground water became necessary to supply the population with fresh water, increasing the problem of subsidence, which had reached a record level of up to 10cm per year in 1978 but has gradually been lowered due to reduced ground water pumping since then (World Bank, 2009, p. 22)

These unintended material capacities not only speak of limits to the royal science of engineering, but make visible the multiplicities of non-human forces and their temporalities with which Bangkokians are surrounded. Clark (2016), drawing on Grosz, writes:

> *"Elizabeth Grosz (2012) considers what it means for the very idea of the political to think through rather than about the earth. Grosz introduces the concept of 'geopower', which she suggests […] ought to refer not simply to the practices by which objects or bodies come to be regulated*

by modern governing agencies but to the elemental forcefulness of the earth itself. In this regard, what human agency seeks to capture are the very terrestrial and cosmic powers that make social existence, including our political formations, possible in the first place" (Clark, 2016, p. 13).

While paved highways, dams, concrete river and *khlong* embankments, bridges and high-rising townhouses speak of a temporality that seems enduring, almost eternal, the fluvial subterranean disrupts these structures and inscribes its own rhythms and powers into the urban surface. Being attentive to the depth of Bangkok's geo-body, we see the lines of flight (here in the form of geopower) emerging that disrupt the transformation of Bangkok through the development machine. Instead of foregrounding human action here, water is the force that disrupts the terrestrial turn through its undisciplined, uncanny flow. Water represents the unlimited capacity to de-territorialise *despite* increasingly sophisticated measures to striate and govern it. As such, Clark (2016, p. 19) offers a final reflection on politics when faced with non-human forces beyond our control: "In a certain sense, then, all politics might be seen as a kind of trans-acting between the exposed surfaces to which we can make some difference and those deeper forces or formations that stubbornly cleave to their own agenda". Here, one finds another link with this dissertation's search for open futures in the face of climate change. The capacity to de-territorialise and disrupt forms of governing the earth does not rest solely in the hands of humans but is shared and distributed across a range of human and non-human forces. The steady force of the subsurface water pushing against human efforts to striate the space of the metropolis demonstrates how water is re-inscribing itself into the urban. It also speaks of the fact that "open futures" are just that: open to a whole range of personal and impersonal forces to push to the fore. Rather than resisting the force of water, it might in fact be worthwhile considering working with it. The next section thus explores how more contemporary forms of climate change adaptation, such as ecosystem services and "green adaptation", are drawn into the urban climate change and displacement assemblage.

4.5 PRESENT DAY CHALLENGES

The massive concentration of investments into infrastructure, educational institutions and low to semi-skilled jobs opportunities as well as more prestigious jobs led to a situation where "by the late twentieth century Bangkok held the highest proportion of its national urban population (56 per

cent, according to some sources) of any capital city in the world (United Nations 1991)" (Akew, 2002, p. 2). In the early 2000s, Thailand's capital was home to more than 10 million (registered) people (Askew, 2002). The steady stream of rural to urban migration, regional and international migration to Bangkok fosters the continuous growth of the city (ibid., O'Neil, 2008). Bangkok's enduring position as regional hub and primary city is particularly underlined by its modern transport infrastructure including buses, trams and a modern intra-urban skytrain (O'Neil, 2008). With the growing number of inhabitants, an almost equally quick growth in cars became noticeable. In 2012, the newspaper *The Nation* claimed that "as of October 31 [2012], the outstanding number of registered vehicles in Greater Bangkok stood at 7,384,934" (Jitsomboon, 17th December 2012). This immense dependency on cars and loss of fluvial transport options have had increasing effects on the urban climate, and are interlinked with trends of global climate change (Marks, 2011).

4.5.1 CLIMATE CHANGE

Since the 1990s, reports on climate change impacts on Bangkok have warned against the combined effects of Green House Gas emissions (mainly from transport and waste), ground water depletion, and the consequent subsistence of the city and its uncontrolled urban sprawl (Marks, 2011). The constant threat of severe seasonal flooding in the capital is thus connected to the palimpsest of historical transport and drainage infrastructures, where unplanned urbanisation and the transformation from water to land-based city are said to potentially lead to future displacement (Marks, 2011; Davivongs et al., 2012; Bergquist et al., 2014; Myers, 1993; Engkagul, 1993). The severe floods in 1986, 1995 and 2011 further sensitised authorities towards the problems caused by the terrestrial turn (Marks, 2012). Thailand's capital is now repeatedly mentioned within regional and international initiatives and reports as being at the forefront of climate change impacts.

A 2007 policy paper of the BMA called *Action Plan on Global Warming: Mitigation 2007-2012, Executive Summary* acknowledges Bangkok as a prime emitter in Thailand. The yearly urban emissions are broken down to ton per capita leading Bangkok (7.1) to rank higher than the respective emission of Londoners (5.9), matching that of New Yorkers (7.1). The Introduction continues to identify the two sectors producing the most GHG, which are

electricity consumption (mostly for lighting and cooling) and transportation. The first strategic area for emission reduction is thus seen as increasing the availability and attractiveness of public transportation to reduce Bangkokians' heavy car reliance. In particular, the extension of BTS and MRT and the BRT (Bus Rapid Transit System) are presented as future-oriented ways of urban transport. With regard to the BRT, special focus is being placed on not only making this bus service faster, through special lanes, but also more comfortable, by introducing air conditioning in the buses (BMA, 2007, p. 13). As further measures, the expansion of bike lanes (BMA, 2007, p. 12) and of water-based transport is highlighted as "green development" in the city (BMA, 2007, p. 14). The historical waterscape is repeatedly seen as a source for inspiration to enhance Bangkok's flood protection (Bergquist, Daniere & Drummond, 2014; McGrath, 2007; Thaitakoo & McGrath 2010). Yet, re-excavating the old canals is a tedious logistical and juridical affair, as Thongchai says:

> *Thongchai: So… Today we try to bring the waterways back. But it is not easy. In particular because of the land titles. […] You can see the big buildings [built over old khlongs]… and that means we would have to buy the big buildings and knock them down… so the government does not want to do that.*
>
> *Interviewer: This seems to be a complicated juridical issue… so may I ask… if I bought land here, would that mean that I automatically also own the waterways?*
>
> *Thongchai: No. the waterways no one can claim. And you have a government declaration stating that. The waterways are national waterways. No one could ask for the land titles [for them]… But again, it becomes politics! […] The most difficult thing is to talk to the landlords. Because those are millionaires who have the biggest land titles.*
>
> *[Thongchai, January 2016, Bangkok]*

During this exchange, one can sense the molar power structures at play complicating the efforts to re-develop the waterscape. Private appropriation of waterways and their filling for larger plots of lands to

develop malls and condominiums have been seen before as major obstacles to enhancing the former drainage capacity of the urban *khlongs* (Davivongs, Yokohari, & Hara, 2012). Thongchai's rather upset remarks about the impossible task of reclaiming the waterways show that the state is always confronted by forces that escape it.

4.5.2 ECOSYSTEM SERVICES AS EMERGING ROYAL SCIENCE?

In an interview with water experts working for the German Development Institute (GIZ), I further discussed whether excavating the *khlongs* would not be a way to revitalise the adaptive capacities of the city. But the answer is a difficult one. Bangkok's position as a delta city, located at the mouth of a large river, necessitates a careful assessment of the wider river ecologies, as a GIZ water expert told me. The interview revealed a crucial moment of re-orientation or paradigm shift within hydro-engineering, as the "grey (concrete) infrastructural measures" of the development period prove more and more unsuitable to cope with floods in the city. This turn towards "green infrastructure" can be usefully interpreted with the problematic position of nomadic science vis à vis royal sciences. Deleuze and Guattari make it abundantly clear that nomadic sciences – sciences that follow flows and connect smooth spaces – are always at risk of being captured and appropriated by the state and turned into a royal science by and for the state (Deleuze & Guattari, 2013, p. 434).

> *I'm not so sure that technical solutions are necessarily faster to realise beneficial outcomes than "green measures". I think the crucial difference is that with technical measures, one sees continuous processes of labour and people feel like the state or municipality is really trying to improve a situation, whereas with green measures, people only see some vegetation growing to prevent erosion, for example… […] Still, within these green measures, one finds active labour 24/7, but nature visualises this labour not as well as humans constructing grey infrastructure [….] anyways, I think investing in waiting for vegetation to grow for six months might be more efficient than investing in human activities to stop erosion.*

Considering the growing of grass and the beneficial potential of nature for decreasing flood risks poses interesting philosophical questions about the conceptualisation of labour. At first, perceiving nature as a labouring subject seems at odds with various philosophical traditions. In particular within Marxist traditions, the centrality of labour as a distinctive characteristic of human societies seems questioned here (e.g. Smith, 2008; Swyngedouw, 2004). From a deleuzoguattarian perspective, the above quote seems to open new ways of thinking about the capacities of non-human bodies. However, the enthusiasm expressed by the interviewed expert might also caution a critical look at whether the appropriation of green measures of "eco-system services" signals the rise of a new royal science. Sulivan (2010) has argued that ecosystem services can be thought of as a new way of imperial strategy to subject nature to human demands. Recent research has looked at New York City's employment of oyster colonies as living water barriers, a measure much in line with the techniques of ecosystem services channelling the whole lifecycle of another species into human-made infrastructure (Braun, 2014). Using these non-human capacities in such a manner (rather than constraining these forces through "grey infrastructure") may signal the appropriation of such forces more than their liberation (Schröter et al., 2014). To further complicate the assessment of new, non-structural measures, Thongchai says:

> *Adaptation is a big question. How can people adapt themselves? We tried to have more cooperation on sustainable infrastructure. But we can't fight for this… because the director of our department does not care about non-structural measures. […]. They like road development projects. So they can make dams and roads at the same time… like the King Dyke. They enjoy that idea. Because they can spend a lot of money. They enjoy the shiny projects… but the non-structural ones… they don't like. They only want quick solution.*

> *[Thongchai, January 2016, Bangkok]*

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A turn towards non-structural measures thus seems to be questionable, as "green solutions" still face opposition within some important institutions such as the Ministry of the Interior. In fact, the relative vantage position of the foreign expatriate may contribute to the GIZ officer's position on "green" infrastructure. Yet, discussions on the future of Bangkok's watery heritage seem to trigger the imaginations and (sometimes nostalgia) of academics (Noparatnaraporn & King, 2007). More recent climate change and migration literature interested in the theme of resilience might see Bangkok's fluvial past as a historical best-practice example (Thaitakoo & McGrath, p. 2010). However, as Morita (2016 a, b) has convincingly argued, the flood-adaptive lifestyle of the delta population involved an aquatic multi-species infrastructure that might prove impossible to recreate.

Apart from the philosophical questions arising from an expert's enthusiasm for "green infrastructure," Thongchai alerted me to the political conflicts likely to occur in the revitalisation of the urban canals. The remaining urban waterscape coincides with the last informal *khlong* communities, such as the one Auntie Lek belongs to, and thus a revitalisation of the urban waterscape will raise thorny political contestations. Living in informal arrangements, their political right to be heard and to receive compensations for possible resettlements is severely limited, putting them into a direct antagonistic position vis-à-vis the state and municipality authorities. Moreover, their position becomes antagonistic to a collective imagined future in Bangkok, jeopardising their already precarious existence, and risks turning them into "unimagined communities" (Nixon, 2010). The urban poor inhabiting the waterfronts seem to represent a new transformation of the deleuzoguattarian figure of the nomad: "Neither a migrant who departs without returning nor an exiled figure who is forever banished, the nomad is, rather, constituted as an internalised exteriority, inhabiting the state but placed beyond the walls of the polis" (Leonard, 2003, p. 197).

4.6 CONCLUSION

Drawing on Joy Parr's (2001) work on sensory history and the notion of a geo-philosophy, the concept of assemblage was used in this chapter to address this research question: What historical forces, affects and actors shape the urban context in which the climate change and displacement assemblage emerges?

A historical perspective on the link between climatic changes and displacement in Bangkok reveals that people used to be well-adapted to the changing hydro-scape of the delta. As an integral part of the river ecology, the human settlement along the Chao Phraya flourished because of the abundance of waters' connectivity. Waterways, rather than roads, served as the lines for wayfaring, connecting the people of the capital to other polities and allowing for important trade routes across the Gulf of Siam. Displacement happened in rhythmic cycles according to the fall of the monsoon that sometimes swapped houseboats along further down the river. With regard to the climate change and mobility literature mapped in chapter 2 of this dissertation, the movement in response to seasonal floods seemed to have been frequent, small-scale and even mundane. The movements of people followed the flow of water rather than resulting in large or apocalyptic mass exoduses which climate change and migration literature often uses as historical examples (Zhang et al, 2011; Erikson et al. 2012,). An urban hydro-history of Bangkok suggests that in the fluvial past of the city, adapting to water was embedded within a particular type of mobile urban dwelling rather than large-scale migration or technological inventions to block water. The concept of assemblage attends to the sensory and affective components of such historical displacements. The chapter has demonstrated how it might be quite appropriate to think of the climate change and displacement assemblage as a historical relation in which: "… migration is not a chance occurrence within history, but *is* history" (Colebrook, 2017, p. 120).

Furthermore, movements enabled through the fluvial lifestyle might also have had social or even political implications as they were sometimes actively anticipated to avoid conflicts with neighbours or governing bodies. The capacity to move along the waterscape freely was bound up with social codes. Assemblage thinking enables an analysis of these processes as a measure that served to striate Siamese society along racial lines. Here, the historical and contextual relations between social codes and displacement offer a way into thinking about wider issues of the ordering of social relations and the power relations at work within the pre-nation state of Siam. The subjugation of war slaves into digging some of the urban canals not only speaks of historical schemes of appropriating labour but also shows that the waterscape's mobility affordances were striated along a racialised code of

bodies. The in-depth reflections on the historical and contextual factors that inform an urban climate change and displacement assemblage have direct consequences on the scenarios of displacement that are likely to emerge. Historical patterns of structuring Thai society along socio-economic and racial lines of inequality provide a molar grit to think through possible power relations that may influence displacement experiences today.

Assemblage thinking helps us to analyse transformation of Bangkok's historical ecology by allowing us to appreciate the historical quest for *siwilai* as a collective assemblage of enunciation in which statements, discourses, and the power of prominent agents de- and re-territorialised urban space. What such a theoretical perspective adds is the acknowledgement that power alone does not suffice to explain such drastic changes which seem equally animated by flows of desire. Desiring *siwilai* reveals the flows that circulated through historical projects such as the building of Ratchadamnoen Avenue, in which the careful engineering of affects and atmospheres speaks of the urgency with which the Crown sought to demonstrate its compliance with particular forms of urbanism. Furthermore, such a perspective can contribute to a careful re-telling of Thais' past and as such can be seen as a modest contribution to "open futures" in the realm of Thai scholarship, which is incredibly tied to official narratives.

The molar codings inscribed in the landscapes through concrete infrastructures and buildings demonstrate an actualisation of virtual potentialities that literally cement the terrestrial turn of the city onto the fluvial ground. Beneath the surface, the murmurs of the old fluvial waterscape are noticeable as it gradually confronts and de-territorialises Bangkok's highways and houses. The potential to confront particular visions of urbanity is thus not limited to a conscious human agent, but rather found in elements distributed across the urban assemblage. The vitalist ontology of assemblage theory used in this dissertation allows for granting agentic capacities to water *itself*, and shows how the resisting force of water continuously challenges the territorialisation of urban flows in the city. As such, the concept of assemblage provides us with a set of analytical tools that resist being mere metaphors. De-territorialisation can here be perceived as an actual undoing, a material decomposition of what may appear as firm ground otherwise. By opening the concept of assemblage to Parr's (2001, 2006, 2007, 2010) work on "sensuous

historical bodies", interview quotes are foregrounded in which participants discuss their own experiences of urban change. Parr's insights connect well with a perspective on affect that foregrounds the body as a crucial repository of storing past, embodied experiences. The alignment of Parr's reasoning with Deleuze and Guattari's insistence that "we know nothing of a body until we know what it can do[...]" (Deleuze & Guattari, 2013, p. 300) is seen as a way to return to the dissertation's goal of thinking about open futures. The embodied response to material urban change is seen as a repository for people to become activated and drawn into struggles for open climate futures. The recent efforts of excavating elements of the ancient waterscape might be a way forward to create new material alignments that are better suited to cope with climate change in Bangkok. Yet, similar to the previous siwilai or development assemblages, enhancing urban ecosystem services demonstrates that socio-economic status involved in landownership inhibits the desire of engaged officers at state agencies, academics and even international development experts to revitalise the *khlongs*. Deleuze and Guattari's notion of the "royal vs. nomadic sciences" – in which knowledge is never seen as neutral but as serving particular types of projects that may be geared towards the striation or freeing of flows respectively – shows how green infrastructure measures may not suffice to save us, as they risk being captured and turned into official state approaches. (Chapter 6 of this dissertation continues to explore the consequences of such new infrastructure measures in the city meant to improve Bangkok's adaptation to floods.).

The next chapter analyses the 2011 flood though an assemblage theory lens and foregrounds how the flood triggered a set of socio-material de/re-territorialisations.

CHAPTER 5
THE 2011 FLOOD ASSEMBLAGE: BEYOND TOPOLOGIES OF DISPLACEMENT

5.1 INTRODUCTION

"The most visible manifestation of the changing climate are extreme weather fluctuations which have increased in their frequency. Thailand has not been spared of these climatic aberrations. Since August of this year, Thailand has been experiencing the worst flooding in half a century. The disaster has caused loss of over 600 lives, painful disruption on livelihood of people, and seriously undermined the country's economic growth and development"

Statement by H.E. Mr. Pithaya Pookaman, Vice Minister of Natural Resources and Environment of the Kingdom of Thailand at the High Level Segment of the UNFCCC 2011 COP 17, 8th December 2011.

The above quote refers to the devastating flood that occurred in Thailand in 2011, blaming climate change for the event. Such causal reasoning was heavily criticised as contributing to a de-politicisation of the crisis (Cohen, 2012; Marks, 2015; Marks & Lebel, 2016). And yet, the strange power of the flood (whether or not directly attributable to climate change) altered the materiality of the city and the way people moved and inhabited it. The presence of the water led to acute, yet reversible forms of displacement. The aim of this chapter is to map how the flood triggered the diverse forms of displacement and to attend to the socio-economic, material and cultural factors that produced differences within the displacement experiences. Addressing and comparing these differences can help foreground difference in itself (Jacobs, J.M. 2012) and thus provoke new ways of thinking about climate change and displacement.

To distinguish difference within the flood assemblage, the concept of topology is used. Whilst particular forms of de- and reterritorialization during the flood can be usefully mapped with the concept of topology, some forms of displacement resemble more a breaking point or temporal departure from such a topology. To recall, Chris Harker (2014) foregrounds the "fleshy" relations that shape urban spaces. He proposes that critical urban inquiry could put less emphasis on discussions of governance and control within cities, rather developing a vocabulary and sensitivity towards topologies

which "... deal[...] with surfaces and their properties, their boundedness, orientability, decomposition, and connectivity – that is, sets of properties that retain their relationships under processes of transformation" (Sector, 2013, p. 4-5; quoted in Harker, 2014, p. 8). The topology of the flood assemblage thus attends to properties which retained their relations, despite temporal decompositions. Researchers have already demonstrated how the concept of topology and that of assemblage connect well (e.g. Barba Lata & Minca, 2015; Allen, 2011; Bergen, 2010; Marston, Jones & Woodward, 2005). Yet, the concept of assemblage also is suitable to test the limits of such topologies, as it simultaneously affords so-called "lines of flight" disrupting topological relations. Crucially, as Müller & Schurr (2016, p. 217) put it: "assemblage thinking describes change with rupture". The chapter proposes that it is within these temporal breaking points where interesting insights into a potentially open climate future can be found. The chapter thus revolves around the forth research question of the dissertation: How can assemblage thinking enrich our conceptualisation of urban displacement experiences in extreme weather events?

The chapter is divided into two large sections with several sub-sections to contrast the topologies of displacement with a set of "lines of flight". Section 5.1 begins by discussing the limits to govern the flows of the flood during the event. The difficult political situation of the year and the conflicts between red and yellow shirts as well as the notoriously provisional and ill-aligned drainage infrastructure of the city form the socio-technical assemblage in which a topological reading of the flood seems useful. Such a perspective can also be extended when thinking of how different groups (e.g. tourists or migrant workers) experienced displacement corresponding to their unequal, crucially relational, mobility capacities. Section 5.2 maps a set of flood-related disruptions seemingly at odds with a topological reading. Here, the flood assemblage reveals its de-territorialising side, or more precisely, its capacity to produce (temporary) lines of flight. The altered presence of animal bodies demarcates the limits of governing the mobility of such actants during the inundation, and reveals the potentiality for inter-species care during crisis situations. Open futures might involve such a "more-than-human" mindfulness. Furthermore, the question of race re-appears in this section as

urban refugees were met with deep ambiguity during the flood, which speaks to a subversion of social codes departing from topological relations.

5.2 ASSEMBLING FLOOD TOPOLOGIES

As chapter 4 has demonstrated, assemblages always emerge within milieus and contexts; they criss-cross each other and are embedded within wider sets of relations (Legg, 2011; McFarlane & Anderson, 2011). Within any assemblage analysis, it seems hard to trace the beginnings and ends of an assemblage; to demarcate the inside and outside as boundaries as more fuzzy and fluid than rigid or readily identifiable (Müller & Schurr, 2016). This section thus uses the concept of topology to think through the differentiated forms of displacement that emerged within the 2011 flood assemblage in Bangkok. The section explores how the flood assemblage transformed socio-political, cultural and material processes and properties in such a manner that these nevertheless retained their principal relations.

5.2.1 MOLAR TRANSFORMATIONS

The 2011 flood was the longest flood in Thailand's recent history, with a total duration of 185 days. The monsoon brought 30% more rain than usual that year, further intensified by four tropical storms that hit the country between June and September 2011. More than 700 people died in the course of the flood, and the financial loss Thailand endured through it was calculated at 43 billion US$ (Lertworawanich, 2012, p. 875; Word Bank, 2012). When the water inundated the central plane and the greater Bangkok area, it put 20 million people –roughly 30% of the Thai population – at risk of being inundated (Gale & Saunders, 2013). The effects of the flood were also felt outside of the country, as the central plane hosts the majority of the country's economic production zones (Courbage et al. 2012). In October 2011, the flood reached Bangkok and submerged several outer districts and the northern Don Muang airport, hampering inter-regional mobility. The disruptions caused by the flood thus reached into distant parts, demobilising inter-regional transport.

Perceiving the flood as assemblage means to attend to the fuzziness and multi-layered happenings that emerged during the inundation. Bangkok's flood infrastructure begins several kilometres north of Bangkok, where the Bhumiphol and Sirikit dams form an essential part in protecting the city of Bangkok (Molle, 2005). The dams, with their multipurpose usage as power

generator, agricultural water reservoir and flood protection, proved, however, utterly ineffective that year (Blake, 2015). Water management in Thailand "involves 16 organisations, from four major Ministries", thus leading to considerable coordination challenges (Boonyabancha & Archer, 2011; Marks & Lebel, 2016). The dam management is shared by different government agencies that often have colliding interests. During the onset of the flood, the ministry for agriculture overruled the Electricity Generation Authority of Thailand and ordered the storage of as much water as possible to allow farmers to harvest their crops first before releasing water from the retention basins (Marks & Lebel, 2016). This decision may have been triggered by the draught experiences the year before (Marks, 2011). The delta and northern regions had suffered severe water shortages then, causing downturns in rice production. The experience of lack the year before thus shaped the rationale to store water for the dry season rather than releasing water timely. The belief in engineering solutions (as discussed in the previous chapter) surfaced in the decision to rely on the capacities of the dams even though their maintenance had been routinely neglected, turning them into ageing reminders of the development paradigm of previous decades. Utilising infrastructure to protect the city from flooding was hence complicated by both the fragmented system as such and the unclear priorities that muddled their more effective usage. The flood assemblage did not so much produce a new set of relations here, but rather revealed a particular set of pre-existing, highly complex institutional and material (mis-)alignments.

As fragmented as the infrastructure that year was the political situation. The newly elected but politically weak Prime Minister Yingluck Shinawatra (the sister of former, and ousted, Prime Minister Thaksin Shinawatra) and the then on-going political rivalry of the so-called "Red" and "Yellow" shirts contributed to the failure to adequately prepare and manage the flood (Dalpino, 2012; Cohen, 2012; Marks, 2015; Marks & Lebel, 2016). The fragmented and often biased administration cadres, the military, a new central government, and high levels of nepotism and corruption form their own political assemblage in which different groups struggled for authority during the inundation. Authority - defined by Allen as a mode of power in which options are quickly narrowed down as it relies on hierarchies and proximities (Allen, 2004; Bulkeley, 2012) – was rarely achieved. Research

demonstrates how orders given by the central government where purposefully ignored by some of Bangkok's district mayors to save their own constituencies (Marks & Lebel, 2016). These ambivalent individual decisions intensified the uncertainties about the flow of water and undermined the capacities of the newly elected government to manage these flows.

Economic Disruptions

During my stay in Bangkok, I made friends with the Japanese expatriate Hide, who has lived in Bangkok for many years. Driving together to Ayutthaya in October 2015, we stopped at the industrial estate where he used to work in 2011. Hide gestures at the manufacturing buildings, and the interconnectedness between the Thai and Japanese economy becomes ever more apparent. The vast majority of the estates around us host Japanese manufacturers, with Honda being one of the biggest entrepreneurs around. For the Japanese car industry, the year 2011 was a disaster, Hide tells me. First the tsunami destroyed wide parts of the assembly plants in Japan, then the Thai flood destroyed the primary overseas assembly spaces. We get out of the car and explore an abandoned manufacturing hall. Only stray dogs live here now (Image 5.1).

Image 5.1. Stray dogs inhabiting abandoned CASIO production site. Industrial estate near Ayuthaya. Own Image.

The watermark is still visible on the columns in image 5.1. Before the flood, thousands of workers assembled watches for the Japanese company CASIO here. Hide was sent home to Japan by his company during the onset of

the 2011 flood, and when he returned to work in Thailand, he noticed that companies had started their own flood improvements. Floodwalls, gates and ditches appeared around the individual manufacturing sites, adding to the improvised, ad hoc self-built infrastructure to protect one's property against inundations (Image 5.2).

Image 5.2. Floodwall in front of Nidec-Copal company. Industrial estate near Ayuthaya. Own image.

The inundation of the production zones just outside of Bangkok arguably had the most far-reaching effects, and fully de-localised the flooding event. Here the concept of topology in relation to assemblage shows that:

"When relationships are understood topologically, presence and absence are reconfigured so that the distance between 'here and there' or between 'the local and the global' is not anything that can be measured in miles and kilometres. The way that things hold together in assemblages is down to their relatedness, so to speak, rather than simply their topographical setting and location" (Allen, 2011 b, p. 156).

Disruptions in the supply chains of many manufacturers led to severe global price hikes in such goods as computer hard drives. Western Digital's two factories, responsible for almost 25% of the global hard disk drive supply, were completely paralysed and remained inoperational for almost six weeks as precision equipment as well as material supplies had been destroyed (Wai & Wongsurawat, 2013, p. 34). The high percentage of destroyed manufacturing sites, as well as losses in housing and tourism, made the event one of the most expensive flood disasters worldwide (World Bank, 2012, p.

12). In total, 90% of the losses suffered were borne by private bodies (Courbage et al., 2012, p. 123). Before the flood, less than one per cent of private households opted for flood insurance for their house, despite the low insurance rates. The high amount of insurance loss thus primarily comes from insured industrial estates that tended to have full insurance coverage against flood, fire or other environmental risks. Due to the high losses, the global insurance market moved Thailand's rating up to "high risk", leading to first withdrawals from the market by international insurers (Courbage et al., 2012, p. 128). A swift de- and reterritorialization of international insurance and re-insurance practices thus emerged in the aftermath of the event. Given these insurance alterations and the 2011 losses, several foreign companies moved their manufacturing sites elsewhere (ibid.). While this sudden departure of manufacturing companies might appear as a "line of flight" at first, on a more abstract level it reveals the topology of present-day capitalist relations. While production sites in Thailand were given up, the relation between capital and cheap labour was retained within new locations.

The flood also manifested itself unequally across Bangkok. While some parts were inundated for weeks, others were only touched by the flood's intensity through its virtual potentiality. "Intensities, however, have a double articulation in Deleuze's philosophy, the virtual and the actual", Adkins (2012, p. 509) reminds us. While especially urban poor communities were sacrificed and experienced inundations for several weeks, the inner city and CBD remained mostly dry due to sustained water pumping efforts and several thousand sand bags blocking the water. These temporal flood adaptation measures were needed to support the strategically installed flood gates and so-called "King Dykes" (elevated highways) that protect the inner city (Marks, 2015). The event of the flood thus was never actualised in this inner part, but lingered on as a virtual potentiality. In an interview, the GIZ Bangkok director stated:

> *In 2011 the entire area around Chatuchak [Northern stop of the Bangkok metro] was flooded. And if the water had been only 10 cm higher, the entire metro would have been flooded. And the water would have run through the entire city. Really, they were so lucky!*

He then continued to point out:

*Obviously they needed to prevent the metro from
flooding. And so they opened some dams in the outer
parts of the city to release water. And that sparked
many protests. Because the farmers complained that
now their fields were flooded to save the rich and the
bakers of the inner city."*

The spatial distribution of the actualisation of the flood thus was not
random but revealed a particular political economy of space (see also: Marks,
2015). The city core remained a dry island with vital transport networks such
as the sky train (BTS) and metro (MRT) – remaining functional via previous
investments into the latest technologies and pumping stations around the
metro to tame the flow of subterranean ground as well as flood water (Ghosh
& Jintanapakanont, 2004).

The flood assemblage thus revealed a topology of space in which the
imperative of keeping the CBD of Bangkok dry and infrastructures running
relates to older, similar efforts. The successive phases of investing in keeping
the inner district dry demonstrate how flood protection in the city has always
been tied to a project of keeping elite places and bodies safe and dry (Marks,
2015; Marks & Lebel, 2016). An intra-urban comparative gaze thus shows that
the CBD and the northern districts, though in close physical proximity, were
entrenched within an uneven topology of space where previous relations of
power and capital served to keep the CBD dry.

5.2.2 RACE AND DISPLACEMENT

A few weeks into my fieldwork, I became increasingly interested in the
cosmopolitan mix and mobile pasts of Bangkok's population: Exploring ethnic
neighbourhoods around BTS Nana and walking through the old bits of

Chinatown, making friends with expatriates from Russia, Germany and Japan; interviewing people from all corners of Thailand who had come to the city at one point or another in their life; and talking to the internationally trained colleagues at Chula University, I became fascinated by the routes and passages people had taken to end up in the city. Encountering differences between people and their diverse mobility histories was a recurrent theme to ponder during my time in Bangkok. I thus became curious in how different types of foreigners experienced the 2011 flooding.

As mentioned above, the flood assemblage had far reaching, translocal effects. Despite the efforts to keep Bangkok's CBD dry, aerial images of inundated manufacturing sites, villages and Bangkok's suburbs, and later the inundation of the local Bangkok airport at Don Muang (not reopened until March 2012), were widely circulated through the internet, leading to another economic downturn. Tourists assumed that traveling to and from Bangkok was impossible, thus opting for either cancelling their holidays in Thailand or re-scheduling their trips (Ghaderi et al., 2015). Consequently, the Thai tourist industry saw a decrease of 30% in the months following the flood. By November 2011, 20 countries, including the USA, UK, Germany, Canada, Australia and New Zealand, had issued travel warnings or alerts to their citizens planning to visit Thailand (Piyaphanee, 2012, 1197). In an interview with the Thailand Authority for Tourism (TAT), I learned that this temporal disruption of tourists coming to Thailand was short-lived, however. Tourists, as particularly privileged mobile bodies (Nail, 2015; Bergman & Sager, 2008), were often afforded the choice to just spend their vacations elsewhere. But while the Thai tourist industry felt their absence bitterly, wealthier Bangkokians started to relocate to now-vacant tourist resorts and fill the gap. The country's southern tourist resorts that year were thus not filled by international visitors but by what Cohen (2012) had termed "flood refugees" from the capital.

While for more privileged people the flood caused discomfort, the situation of migrant workers, for example, was comparably worse. This point seems crucial to make, as literature discussing the vulnerability of Bangkokians to climate change- related disasters (Marks, 2011; Bergquist, Daniere & Drummond, 2014) (or the 2011 flood in particular Marks, 2015; Marks & Lebel, 2016) seems to be rather oblivious to the fact that the city's

inhabitants are not only fractured along e.g. class lines but also differentiated by legal entitlements, different ethnic origins, cultural and religious backgrounds, and degrees of citizenship. Critical studies of disaster mobility have started to raise awareness towards the politics of race and citizenship within disaster situations. Disaster events reveal the affordances and exclusions of mobility systems in so far as they show which types of movements are valued and defended and which ones are being sacrificed or ignored (Sheller, 2012, p. 186; Grieco & Hine, 2008; Creswell, 2008; Curtis, 2008; Santha et al. 2016; Cook & Butz, 2015; Wang & Taylor, 2016). Importantly, Deleuze and Guattari write in the Anti-Oedipus: "[…] society is not first of all a milieu for exchange where the essential would be to circulate or to cause to circulate, but rather a socius of inscription where the essential thing is to mark and to be marked." (Deleuze and Guattari, 1983, p. 142). One of the most fundamental ways of marking or coding within societies then are the law, contracts and institutions (Deleuze, 2004, p. 256). A particular way of marking lies in practices of citizenship and those policies, rules and regulations that administer foreign population movements.

This becomes clear when looking at the plight of migrant workers during the flood. Since the 1990s hundreds of thousands of regional, low-skilled[5] migrant workers from Myanmar, Laos, Vietnam and Cambodia have arrived in Thailand in search of higher paying jobs in the country's expanding manufacturing sector. At the onset of this labour migration, few rules – never mind a coherent state approach – were developed. The long and porous borders were little regulated and the overall assumption of the Thai state was that migrant workers would only join the workforce temporarily before returning to their native countries. Thai immigration law still operates under this erroneous assumption today (Boonchalaksi et al., 2012, p.387). The financial crash in 1997 served as an excuse for some half-hearted attempts to expel a number of migrant workers, but the flow was hardly stopped, and even intensified after the economy recovered (Baker & Phongpaichit, 2009, p.211). The majority of these workers found work in Bangkok as well as the

[5]Migrant workers in Thailand are conceptualised as low-skilled. High-skilled labour migration – e.g. in the form of expatriates – is a bureaucratic but well-oiled policy assemblage designed for a much smaller number of people. In 2010, the 1 million registered low-skilled migrant workers compared to approximately 100 000 professional and skilled migrants from around the world (Boonchalaksi et al., 2012, p. 388)

southern and north-western regions of Thailand (IOM, 2009, p. 7), in so-called "3-D jobs" in the fishing, mining, construction or manufacturing industries that are "dirty, dangerous and difficult" (Veerman & Reid, 2011, p. 970). Migrant workers in Thailand are routinely subjected to discrimination, and face severe human rights and labour rights violations (ibid.).

A particular characteristic of this labour force is the high number of unregistered and thus "illegal" labour migrants who often seek both labour opportunities in Thailand's middle-income economy as well as refuge from political and religious subjugation in their countries of origin (Bryant & Rukumnuaykit, 2013, p. 785). As such, labour migrants in Thailand are not reducible to either the international category of "migrant worker" or "asylum seeker", but traverse them. The complex configurations of people's movement across the border seem to defy essentialising categories. Rather large segments of the workforce are constantly engaging in ways of *becoming* or transcending these categories during their stay in Thailand (becoming illegal, becoming refugee, becoming worker etc). Despite anti-trafficking policies put in place in 2008, migrant workers' precarious legal position is persistently worsened by human trafficking in the region (Chalamwong, 2012). Keeping in mind the diversity of Memorandums of Understanding and local regulations, as well as the wide range of paths and entry points in the Thai border region, diverse actors (from NGOs to IGOs to local and national governments) remind us that policy development is a multi-directional, fraught process of assemblage often leading to unintended and little envisioned realties, rather than a purely rational "problem-oriented" product (Prince, 2011, p.198). This proliferates a situation where migrant lives and stories in Thailand are characterised by the absence of data or "evidence". The plight of migrant workers during the flood is no exception. Their experiences were mostly unaccounted for, and so far have triggered only little academic attention. The power to narrate, to remember and to document vulnerability to natural disasters in the flood assemblage was skewed in favour of Thai nationals. Crucially, during the inundation in Thailand, some of these migrant flows (whether registered or irregular) were meant to be reversed: with most manufacturing zones inundated in the outskirts of the capital and around Ayutthaya, many sought to return home and seek temporary shelters in their communities of origin abroad (World Bank, 2012, p. 213).

While migrants desired this reversed flow, legal provisions severely hindered their return home. While much of literature on climate change-induced migration insists that forms of migration (internal or inter-regional) are beneficial adaption measures, the Thai state does not grant the freedom of movement to all people residing in the country. These legal arrangements thus fundamentally intervene with one of the predicaments of that literature. Already-mobile people such as tourists, refugees, migrant workers and expatriates, carrying different combinations and complexities of socio-legal "markings*",* had different mobility rights at their disposal during the flood:

> *But we could see that [the] first thing that happened was that non-Thai and illegal [migrants] were pushed away from all the attention of the government. And then they had to rely on the international organisations and NGOs to get the basic assistance that they needed. [Even though] those [basic assistances] were actually provided by the government at the time but they could not access [this support] because of the legal status.*
>
> *[Director Thai National Refugee Council, October 2015, Bangkok]*

Legal provisions thus pushed away migrant workers from state support, with detrimental effects to their well-being. Only those connected to supra-national agencies or with ties to NGOs were able to gather assistance. During the flood, these institutionalised markers of difference served as a powerful tool to fix, or demobilise, people in their locations:

> *Those [migrant workers] who are registered can only stay in the province in which they are registered to work. And so part of the vulnerability is that if their province is flooded and they want to leave they are immediately back in their irregular status. [And] because they didn't have freedom of movement they were extorted along their way [back to their home country]. [...] In most cases they then did not have any safety nets to fall back on like Thai nationals have. For example, if you lose your job you might have*

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unemployment benefits or so... so for migrant workers,
they cannot access those benefits. [...] But without
many savings they soon had to find work again ahm...
and again they were back in the irregular status.

[IOM Country Officer, January 2016, Bangkok]

The flood thus explicitly raised attention to problematic existing legal practices in countries projected to be affected by climate change in the decades to come. The flood made visible these divides between local population and migrant workers. In the World Bank's assessment report of the flood, stories about extortion of migrant workers by police and army personnel along their way back home were reported. Some of them were even sent to immigration detention centres when stopped by authorities, further demobilising, even incarcerating, these groups (World Bank, 2012, p. 213). While the flood had been sufficient to produce a new hydro-reality in which mobility practices were altered, it did not restructure the political codes that allocate rights to specific people:

...the other group of non- Thai [migrant workers]
which may have worked here for example were
actually not assisted. If they managed to go to
government shelter in the very beginning they would
not be accepted to the shelter because they were non-
Thai and [without documents].

[Director, Thai National Refugee Council, November
2015, Bangkok]

As the inundation persisted, the Thai government opened a specific shelter for migrant workers, only prolonging the Thai approach of separating rather than integrating migrant workers, entrenching them in a topology of power where the state can express a high degree of cohesion over their bodies.

5.2.3 *SENSING THE FLOOD*

The argument in this section focuses more closely on the "fleshy" topological relationships (Harker, 2014) during the inundation that emerged between people and the urban infrastructure milieu. Political ecologists (e.g.

Swyngedouw, 1999, 2004; Kaika, 2005; Gandy, 2014) as well as cultural anthropologists (Linton, 2010; Davies, M.I.J. 2014; Strang 2014) have drawn attention to the role urban water infrastructure plays not only in governing populations but also in shaping human perceptions of comfort, hygiene and security. Sanitation infrastructure thus connects discourses on security, health and national development with networked material artefacts. Assemblage theory provides a resource to also think through the affective dimension of such a topological relation. Tseng (2014) for example explores the uncanny affective dimension of historical photography by Nadar who documented the installation of Paris' subterranean canalisation infrastructure. These images, then displayed within public exhibitions were more: "than a demonstration of technical innovation in bringing the mythic underground to light" (Tseng, 2014, p. 233). Crucially, in the analysed images the relationship between modernity, health and security as well as the mythic urban underground are woven together. The argument in this section goes as follows: despite severe reconfigurations and infrastructural disruptions during the flood, the urban sanitation infrastructure retained partial functioning in providing affective clues about the safety and comfort of urban dwellers.

While maps and social media supported the flow of information during the time of the inundation, Thai expert and academic Eric Cohen and his wife shared their sensory experience of anticipating the approaching water with me in an interview. Later, I documented their story in my research diary:

Today, I had an appointment with retired sociology Professor Eric Cohen and his wife in a café in Bangkok's busy Sukhumvit area. Annoyed by the blasting air-conditioning in the branded coffee shop, we sat outside sipping on iced latte engulfed by the soaring traffic noise, fumes and smells of the vehicle dependent city. We discussed living in Thailand as foreigners, the then present political situation and the challenges of postgraduate fieldwork before chatting about the big flood during which the couple had decided to go on an extended holiday just before the waters reached their house in a Bangkok suburb. While we were talking about the tense atmosphere in their neighbourhood during that time and the preparation measures they took to protect their house, I was wondering what had finally triggered their decision to leave their home. How had they known when it was time to leave? Eric's wife could clearly recall that for her the situation reached some kind of tipping point when the stench from the gutters in their neighbourhood extended to the inside of their own home and the smell of the canalisation began to seep through the sinks, drains and toilet into their house.

The key for anticipating the advancing water, this conversation suggested, lay in being familiar to particular smells and odours in the neighbourhood and detecting their difference rather than relying on government announcements or news articles. Crucially, this refers back to Parr's work drawn on in chapter four: "We know the world by implication, as we perceive it with our bodies. Our knowledge of our surroundings is tacit, our bodies the registering equivalent of the blind person's stick. The world is to us as our bodies sense it" (Parr, J. 2001, p. 730). In chapter 2, research on indigenous communities and their perceptions and local adaptation strategies to climate change was presented. Interestingly, there seems to be a shared, yet implicit, understanding that people living closely embedded in nature and working the land in various ways (e.g. as herders, nomads, hunters or farmers) have a deep (at times spiritual) connection to their environments and thus privileged knowledge about the incremental changes in these environments (e.g. Bravo, 2009; Cruikshank, 2005). The experience Erik's wife shared with me seems to negate such an "indigenous" or "rural" "exceptionalism" by clearly showing how embodied experiences serve as a way to detect environmental change in the urban, too.

Moreover, there are two important related points to make here. First, her experiences neatly exemplify how assemblage thinking is concerned with sensory and affective dimensions of social life and sees human and non-human organisms as embedded and interconnected with multiple other forces and species. Precisely because of our nose's capacity to fold the "outside in", olfaction became key for anticipating the flood. Second, and related to this, her remark shows how the built environment harbours myriad *vital* forces of *becomings* imbricated in human existences bearing the power to affect us. As Deleuze puts it: "…every individual experience presupposes, as an a priori, the existence of a milieu in which that experience is conducted…" (2004, p.19). In human geography, then, research on urban "smell-scapes" has contributed to our understanding of how cities can be known and experienced through olfaction (Caleb & Hayden, 2014; Montsion & Tan, 2016). In a recent study on how smell is used to perceive social transition in Poland, the authors note how "smell creates highly emotive reactions and connections with space and place" (Sliwa & Riach, 2012, p. 29). Social transition not only breaks with traditional practices but also alters the smell of places. Press and Stevenc asked: "What

might we know about the world if we gave more importance to olfaction [...]?" (2000, p. 182). The above research note implies the answer that we could learn about new ways in which bodies may be capable of perceiving, even anticipating, environmental changes, as "anticipation is dependent on capacities of bodies and of socio-technical apparatuses, distributed throughout the environments of social action" (Groves, 2016, p.1).

Smell, alongside other senses such as vision, or tactility, are important bodily functions through which one learns and knows about the environment and reflects about changes within it (Ingold, 2007; Hoffmann, 2013). Work by anthropologist Ingold has foregrounded how these bodily capacities emerge within the interface between the human body and its surroundings, folding the outside in (Ingold, 2007, p. 243). The sensation of unpleasant smell in the above example was detected through a kind of permanent scanning exercise, via which the olfaction sense detects minor inflections or modulations of the surroundings and thus allow assemblages involving "brain – body – world" (ibid. p. 244) to emerge, contributing to what Ingold calls the "movement of the world's coming into being". As such, the waste and flood water advancing through the drains signalled the coming into being of an altered hydro-reality that was foreshadowed by its unpleasant odours. Perceiving the flood thus involved here pre-cognitive affective forces that emerge "above, below and alongside" (Protevi, 2009, p. 3) the body involving multi-sensual experiences. Foregrounding the olfactory experience of one woman during the inundation may seem to follow a current fascination for attending to micro-processes in human geography, which Dixon (2012, p. 678) summarised as: "a sensuous ontology that privileges the human body as an object of analysis as well as an analytic subject". Yet, attending to these sensations moreover speaks to the relational aspect of human bodies being in the world. As such, the olfactory micro-experience forms part of the wider topologies of displacement that emerged during the inundation, hinging upon "differential and contingent presencing of all manner of bodies" (ibid.)

Perceiving urban spaces as sites of environmental change allows us thus to appreciate how our senses are involuntarily plugged into the feedback loops of our milieus and surroundings, regardless of these environments being "natural" or "built". Crucially: "The notion of the milieu is not unitary: not only does the living thing continually pass from one milieu to another, but the

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milieus pass into one another, they are essentially communicating" (Deleuze & Guattari, 2013, p. 313). As such, the example shows how urban dwellers and indigenous, rural communities' knowledge about environmental change can both arise through tacit, bodily knowledge and experiences. The compositions of the environments or milieus in which change is detected may thus not be a crucial device to produce difference in that regard. Rather, it may seem that it is the duration in which an individual has existed within such a milieu that produces difference. Thus, understanding, for example, what constitutes different capacities to affect and to be affected within the space of an assemblage and their relations to one another is not reducible to a spatial problem, but may also involve temporal components.

Deleuze appreciates temporality in various contributions, and with regard to his work on Bergson, insists that duration is indeed crucial in determining which forms of becomings can be actualised: "duration is that which differs or that which changes nature" (Deleuze, 2004, p. 26). The embedded sewage system emerges as a milieu in which the body of its inhabitants may possess substantial vernacular knowledge accumulated *over time* through which they could detect differences, alterations, and changes that eventually triggered movement away from a particular site. The topologies of displacement within the flood assemblage were hence not only shaped by political economy and matters of citizenship, but embedded in complex contexts of socio-technical infrastructure, cognitive decision-making and affective milieus.

5.3 LINES OF FLIGHT: ESCAPING TOPOLOGIES

This section is interested in testing the boundaries of a topological understanding of displacement within the flood assemblage. Crucially, what this section tries to achieve is to think about the limits of the concept of topology, as these limits may afford a chance to think through the flood assemblage as also being capable of producing lines of flight. Lines of flight are moments of complete de-territorialisation where no easy re-territorialisation is available. Lines of flight, moreover, seem to harbour the potential to guide us into experimental open futures where new modes of politics and urban sociability may potentially emerge.

5.3.1 THE URBAN UNCANNY

This section continues a discussion on what happened below ground, in the extended sewage system within the city of Bangkok during the inundation. The sewage system not only enabled the detection of the advancing flood but also proved to be an uncanny source of danger. While elements of the below retained a topological function during the flood, uncanny lines of flight emerged here as well.

One of the particular characteristics of the 2011 flood was thus its advance through the urban canalisation. The city's sewage network is highly fragmented and assembled from pipes, open as well as covered *khlongs*, tunnels and ditches that either lead to larger *khlongs*, the Chao Phraya River, or to one of the seven bigger or twelve smaller wastewater treatment plans (JICA, 2011). However, as of 2010, only 40% of the wastewater, had been channelled to treatment in public plans (JICA, 2011, p. 1). Hotels, large condominiums, malls and hospitals or other government offices are required to have private on-site wastewater collection and treatment (ibid, p. 15). In Bangkok, the connectivity of a home to the public sewage system is related to spatio-economic questions, but also to certain lifestyles where large inner-city condominiums are more likely to have private provisions. As such, the question of who is connected to the system and who is not, is not a straightforward question of class status, but interrelated to other difference-generating factors that involve a "condo-lifestyle" which, generally speaking, is preferred by younger members of the urban middle class (Matsuyuki, et al., 2013). While the flow of the flood breached dams and overran dykes, the flood also entered houses directly through the water drains of sinks, and toilets:

> *Even if we protect the outside of our house by blocking it, the water will still come into the washrooms and it comes through the drainage.*
>
> *[Officer at Department of City Planning (BMA), February 2016, Bangkok]*

The events revealed that the fragmented *khlong* assemblage could easily reverse its flow and thus cause severe damage within certain types of urban property. The sewage system led to subterranean breakdowns that ultimately led to the mixing of "bad" polluted and "good" clean urban water. A

microbiological assessment of the flood water and Bangkok's tap water during the inundation proved that most water sampled was unfit for consumption and that flood water with high turbidity and bacterial loads had contaminated the taps of the city with considerable health consequences: "The severe floods led to diarrheal epidemics before the water levels receded. A total of 1,157,861 cases were recorded, with 50 of them leading to diarrhoea-related deaths" (Chaturongkasumrit et al., 2013, p. 960). The subterranean water infrastructure played a vital role in this contamination. The microbiological assessment concludes with the assumption that the high load of bacteria in urban tap water was related to the ill-maintained subterranean pipes which caused leakages and exchanges of fluids between the flood-soaked terrain and the infrastructure. While authorities sought to maintain flood walls and dykes, transgressions between contaminated flood and purified tap water in the subterranean speak not only of the force and volume of the water flow, but also of water's incredible agentic capacity to dissolve, transport and seep through the tiniest cracks and holes. The intermingling of good and bad water then happened within the surrounding milieu of the infrastructural assemblage, alongside the pipes and tunnels. The neglect of maintenance and the tiny but multiple spaces of watery exchange and infiltration hence defied human efforts of compartmentalisation and separation during the flood. This uncanny mixing also opens room to think about limits of topologies, as the flood here led to a breakdown of relations, rather than a decomposition of their forms. Precisely because of water's material capacity to dissolve, mix and seep through the tiniest cracks (Strang, 2014; Lindon, 2010), it de-territorialised exiting relations between purified and flood water.

Moreover, mosquitos, bacteria and microbes thrived in Bangkok's new hydro reality. The flood assemblage shows how climate change can evidently also produce an environment of abundance in which particular species multiply quickly. The unfolding of the flood assemblage reveals the tight interconnections between non-human species in urban worlds, and poses questions not only about how to find just, open futures for human beings, but for all species under conditions of climate change. As Bangkok is animated and alive with non-human species such as rats, cockroaches, mosquitos, and fish in the *khlongs*; monitor lizards and exotic mammals in Dusit zoo; besides stray cats and dogs, bats, birds etc., the inundation threw their bodies into

circulation – it stopped, locked, floated, and released them alongside human bodies.

Image 5.3. Monitor lizard in khlong in old town, Bangkok. Own Image.

The "below" during the flood proved risky for humans as well as for these non-human animals as a milieu. News reports foregrounded how snakes using the pipes and canals as secure breeding grounds were pushed out and forced to search for higher ground to avoid drowning (e.g. The Telegraph, The Australian, NY Daily News). But dry grounds were in short supply during the inundation, and thus snakes and other amphibian creatures were thrown into uncanny proximity with humans in streets, houses, backyards and gardens. Critical animal geographies have drawn attention to the misconception of attributing urban wildlife species purely to the loss of natural environments (Thomson, 2007). Cultural perceptions are hence crucial in defining the proper human-animal relations (Philo & Wilbert, 2000, p.5). The altered urban waterscape during the flood revealed this by erasing the neat divides between "human" and "non-human" locations. While assemblage thinking helps us appreciate this post-humanist sensibility and allows the mobility of non-human creatures to matter in its own right, the animal lines of flight add more complications to the notion of "open climate futures", rather than providing easy answers. Human-animal relations are being reconfigured under conditions of climate change extending to the most "civilized" or "humanised" spaces (i.e. cities). The density of urban centres (a key feature of urbanism itself, (McFarlane 2016)) reveals the need to include non-humans in deliberations on climate change and displacement if we are to achieve truly collective open futures. This, however, is by no means an easy task. While the new freedom of the snakes and crocodiles that escaped from their breeding

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farms during the flood signals a phase of their *becoming otherwise*, they nevertheless posed a threat to humans. Escaped from their place in parks or farms, their identity was no longer bound by the controlled spectacle of an urban zoo or amphibian show. While their previous location and condition of immobility became a fundamental part for humans to identify them as harmless, during the flood, they morphed back into the (truly uncanny) organisms that have stoically survived all climate changes since the time of the dinosaurs. Open urban climate futures will thus involve thorny questions and mediations over co-habitation between humans and non-humans in densely populated settings.

5.3.2 VERTICAL SHELTER

While the subterranean city turned uncanny and estranged people from their homes through the mixing and mingling of pollutants, microbes and bacteria, the inundated outskirts became increasingly uninhabitable. This section thinks about the lines of flight produced by a common practice which many people seem to have shared during the flood: retreating to higher grounds (Cohen, 2012). Auntie Lek, for example, simply moved her belongings to the second floor and waited for the water to subside. Similarly, during a conversation with a retired geography professor at Chulalongkorn University, I learned that he had spent the weeks of the inundation with his wife and dog in the first floor of their home. Using a small boat to paddle to dry lands at the fringe of their neighbourhood to purchase food stuff, they decided against relocating to another city, district or government shelter. The more affluent and privileged Bangkokians seem to have enjoyed a particular type of vertical safety during the flood.

Bangkok – with its phenomenal boom and bust of the (high-rising, luxurious condominium) housing market, which sparked the Asian Financial Crisis in 1997 (Sheng & Kirinpanu, 2000) – is no stranger to vertical living arrangements. Bangkok's new sky train (BTS),which remained unharmed and fully functional during the inundation, serves as the new corridor of development for increasing numbers of condominiums for the urban middle class (Moore, 2015). This trend towards both vertical living and transport tends to be seen as representing a particular practice of spatial exclusion (e.g. Matsuyuki et al. 2013).

Image 5.5. Own picture. Taken on a condominium balcony in Asoke area, September 2016.

It seems that the trend of relocating to higher grounds might in fact have been intensified by the flood event:

> *I think another result from that flooding is that there are even more condos [condominiums] in the city close to the BTS. Because people are now seeing that their homes in the suburbs are at risk of flooding. So they stick to the city, to tall buildings with access to department stores and BTS and at least they have somewhere to go. You know as opposed to a home that is harder to protect against flooding.*
>
> *[BIG TREE male activist, February 2016, Bangkok]*

Tall buildings, the inner city and reliable sky train transport emerge here as a trinity of protection against the discomforts and dangers of flooding for the people who have the financial means to make a choice about where to live in Bangkok. The inner city of Bangkok – contrary to Norman Myer's predictions of mass exodus (chapter 2) –may in fact emerge as the built island rising from the increasing number of flood events. In a period of global climate

change and increased urbanisation, these vertical enclaves seem to rise tall against the ever-present danger of inundations. Vertical living then is not only a mechanism to distance oneself from e.g. the undesirable urban poor and the chaos of the metropolis (Graham & Hewitt, 2014; Cwerner, 2006) but also from the uncanny urban "other" lurking in the terrestrial and subterranean hydro-nature of the city.

Dwelling through the flood

Yet, the material affordances of the city may reveal another line of flight from the topologies of displacement. When I met artist Miti in October 2015, he showed me some images he took during the 2011 inundation. Meeting Miti enriched this dissertation in two ways. His images are not only interesting for their content, but also for seemingly adding a further dimension to the flood assemblage – that of aesthetic creation. Art as a medium for reflection entails elements of becoming, affect and materiality, which are so central to the work of Deleuze (Coleman, 2010; Bamford, 2013). Coleman writes: "Deleuze's descriptions of art remind us that it is one of the primary mediums with which humans learn to communicate and respond to the world" (Coleman, 2010, p.15). What turns art into a central category for Deleuze and Guattari is its ability to produce affects, when art functions as a mode of critique by drawing attention to the sensory and emotive realities (Coleman, 2010, p. 15). Working for an international newspaper that year, Miti was asked to send images of the flood that would reveal the chaos and destruction of the city. While working on his assignment during the day, he took the evenings and weekends to capture the other side of the flood assemblage: the calm, the generous, the new urban worlds unfolding before him. As such, Miti's images present a possibility in which: "[...] art at its most creative mutates as it experiments, producing new paradigms of subjectivity. What this means is that art has the potential to create the conditions wherein new connections and combinations can be drawn – socially, linguistically, perceptually, economically, conceptually and historically" (Parr, A. 2010, p. 149). Image 5.4 shows a scene he had captured in the outskirts.

Image 5.4. Photograph taken by artist Miti Ruangkritya as part of the photo series "Flood". Reproduced with kind permission.

Image 5.4 not only projects an atmosphere of calm in the turbulent times of the inundation, but also weaves together the connections between materiality and affect that this dissertation is interested in. The shot was taken on a flooded construction site for a new BTS line. The grey concrete structures in which a couple of informal urban dwellers assembled a temporary home are part of the sky train line under construction. As the water rose in the city, "matter … [became] generative and agentive not just in the sense of bringing new things into the world, but also in the sense of bringing forth new worlds" (Barad, 2007, p. 170; quoted in Aradau, 2010, p. 498). These were new – temporal and fleeting – worlds in which the urban fabric played a deeply ambivalent role. Pipes and pumps, water and concrete were neither cure nor cause of the flood, but operating alongside, below and above Bangkok's flood assemblage, enabling new forms of urban movement and new ways of temporary dwelling. The vertical dwelling assemblage we see here attests to the constant making of urbanism, a constant eventful reshuffling and re-combining of materials, bodies and infrastructures that characterise city life itself (Simone, 2010). During the time of the flood, people's own relocation to available urban space along the vertical axis speaks of the importance to think through the enabling and inhibiting materialities that constitute the urban. In Miti's photo, one sees how the flood has altered the relationship between

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urban infrastructure otherwise intended for the smooth transport of other "mobile subject types" such as tourists or middle-class office workers (Richardson & Jensen, 2008) and that intended for the urban poor. The photograph gives us a glimpse of a re-territorialisation of urban materiality that plugs the concrete structures for Bangkok's ultra-fast and modern transport system out of its meaning and serves as a temporary dwelling structure for the urban poor. The temporary inhabitation of the concrete signals "practices of gathering, composition, alignment and reuse" (McFarlane, 2011 b, p. 649), so characteristic for informal dwelling and usefully analysed through assemblage thinking. Dwelling, then, is a reminder that individuals do not inhabit a ready-made world, that dwelling rather refers to a continuous unfolding of coming into the world (Ingold, 2007, p. 153); a continuous emergence of new life-worlds, and in this case the coming into the world of a new urban hydro-reality.

There is something so inherently common-sense about moving upwards during inundations that this direction of flight tends to be ignored in literature on climate change and displacement. As demonstrated in chapter 2, displacement is almost always perceived as a lateral movement away from environmental harm over shorter (internal) or longer (international) distances. Similarly, mobility studies have begun demonstrating how local poor population, e.g. in the aftermath of the earthquake in Haiti (Sheller, 2012) or after landslides in Pakistan (Cook & Butz, 2015), suffered disproportionately from differentiated (im)mobilisations. However, these movements too are mainly portrayed as a set of movements on a horizontal plane. Placing the relationship of climate change and displacement into the urban, however, invites us to think through other sets of directions and spatial distances travelled by bodies displaced by e.g. flooding. The image then not only gives us an impression of an urban practice of "coping verticality", but also allows us to glimpse "'urban life itself'" (Simone, 2011, quoted in Parker, 2014, p. 3) – a life in which the urban poor are constantly brought into particular engagements with the city involving phases of anticipating and rapidly reacting to changes.

The "coping verticality" portrayed in Miti's image is further caught up in a moment of recalling or remembering a strangely familiar aesthetic of vernacular Thai dwelling. As chapter 4 has demonstrated, vertical living

arrangements in stilted houses were common throughout the country long before the first skyscrapers were built in Bangkok. Today, such architecture has mainly disappeared in the capital except for some of the khlong communities (Image 5.6).

Image 5.6. Own picture. Taken at Khlong Prat Lao, Huay Kwang district Bangkok.
October 2015.

Living on stilts in the traditional pillar houses was a way of dwelling that is well-embedded within Thailand's ecological conditions. The temporal home in the pilled-up concrete structures resembles the historically tested technique of living *with* water rather than aiming at blocking and governing its flow. Below the dwelt-in space on the photograph, the honey comb-like concrete grid leaves ample space for the water to flow past while keeping the inhabitants dry "upstairs". This accidental "architectural principle" mirrors traditional Thai housing where the pillar house forms a particular machinic assemblage with its surrounding ecology. Wooden Thai pillar houses were traditionally assembled in such a manner that an empty space was created beneath it. This empty space below the first floor was filled with a myriad of functions: it served as storage space for agricultural tools or to keep livestock; it created a safe distance between inhabitants and terrestrial insects, bugs or wild animals; and, moreover, it created space for monsoon water to be

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absorbed and further protected the inhabitants from intruding water during floods. In the tropical climate, it also created necessary conditions for air circulation and a shadowy space for work and leisure (Mongkonkerd et al., 2013, p. 331). The outside space created beneath the stilts and the ground therefore formed an integral part of this living arrangement. In fact, a financial analysis has shown these traditional houses suffered less damage than modern ones in Ayutthaya (Mongkonkerd et al., 2013) during the flood, leading academics to call for a revival of this traditional style of housing as an adaptive measure to urban floods and climate change in Thailand (Nilubon, Veerbeek & Zevenbergen, 2016).

More-than-human nomadic subjects

This subsection explores how the practice of relocating to higher grounds may also reveal insights into the kinds of subjectivities that emerged during the inundation. Conversations with the stoic Auntie Lek, determined to wait out the flood in the second floor of her house rather than relocating to the governmental emergency shelters, might signal a certain political subjectivity underpinning her choice. In a way, refusal to leave her house may involve a certain stance or position which climate change and displacement literature may call "maladaptive" (e.g. Foresight, 2011). Discussions on trapped populations who are even said to be foolhardy to stay may come to mind (ibid. See also chapter 2 of this dissertation). Yet, given the great political unrest in the years before the inundation, it may warrant another kind of analysis. Within repeated interviews, Auntie Lek's overall scepticism and wariness of the governments' capability or willingness to support her community became clear. When I asked her whether she was disappointed with the government's support, she just shrugged her shoulders. and Stamp translated her reply for me as:

> *No. Not really disappointed. Just tired of it. They never help us anyways.*
>
> *[Auntie Lek, January 2016, Bangkok]*

As such, her decision to retreat to vertical safety rather than subjecting herself to government support in the emergency shelters may distantly echo

what Deleuze and Guattari see as a nomadic opposition towards the state. Rather than thinking in terms of resistance or struggle here, or of collapsing ad hoc self-help into a form of "resilience", the examples might speak of a form of *state avoidance* made possible by the potentiality of the material involved in the urban flood assemblage. A vertical exploration within the inundated city can help animate the approaches to vertical urbanism with an example of "the fleshy, passionate relations, knowledges and forms of practice through which cities are constructed", which have hitherto been little examined (Parker, 2014, p.3). Whilst, simultaneously, it can allow for new insights into the spatial politics of climate change and displacement in which "trapped populations" are far from foolhardy and equally far from immobile just because the distance of their relocation needs to be measured in height rather than units of length. Similarly, the present/not-present inhabitants in Miti's photograph could be read as a figure not too distant from the deleuzoguattarian nomads. After all, nomads do not travel from one place to the next, but are rather characterised by their wish to secure their territory (Deleuze, 2004, p. 260). Rather than voyaging away from the flood, the absent dwellers in Miti's photograph travelled across the vertical rather than horizontal axis. They remained attached to their urban territory of construction sites, whilst getting off the flooded ground. Instead of remaining or being "flood victims", their appropriation of the built environment can be read as a form of "becoming" in which the creative engagement with the affordances of the urban materiality altered their vulnerabilities.

Briefly returning to the questions of human-animal relations during the inundations, such a nomadic becoming involved solidarities across species, and thus offers a glimpse into potentially shared climate futures (Image 5.7).

Image 5.7. Photograph by Thai artist Miti Ruangkritya. Reproduced with kind permission.

As Miti told me, the people who had sought shelter in the concrete construction extended their care to a group of stray dogs that had previously inhabited the now-flooded terrain. During my research, such gestures of care were abundant. For example Oat, who had coordinated Chulalongkorn university's relief operation in 2011, told me:

> *Oat: So they [the flood victims] brought their pets along [to our university shelter].*
>
> *Interviewer: What kind of pets?*
>
> *Oat: Actually, like everything! So, we provided food and took care [of the pets] and also […] everyone who stayed in the camp could play with the pet. […] And the owner could spend one hour per day with the pet... because the pets need to stay in the box. But every day the owner can spend one hour per day to walk the pet around the university.*
>
> *[Oat, October 2015, Bangkok]*

These stories do seem significant both in their own right and because of the effects animals – in particular pets – can have on humans during disaster situations. Zotteralli found, with regard to Hurricane Katrina: "Others who evacuated after the flooding were forced, in some cases by the threat of arrest, to abandon their pets. People were separated from their companion animals in the name of human health and safety" (Zotteralli, 2010, p. 111). Scholars working on an ethos of inter-species care (e.g. Philo & Wilbert, 2000; Acampora, 2004) and Haraway's (2003) "companion species" manifesto come to mind as seeking to think through pet (in particular dog)-human relationships. Far from just being kept for labour or protection, the dog, like no other animal, has risen to the status of companion in many societies. The co-history of dogs and humans is of course full of discontent, violence, subordination and indifference, but also of compassion, love and labour (Haraway, 2003, p. 12). As such, the term signals more than affection and some form of reciprocity between humans and dogs,; what is at stake philosophically for Haraway in her exploration of the significance of dogs as non-human others in our lives is the proximity and slippages between our well--recited dichotomies of nature-culture, freedom-structure, organic-technological (Haraway, 2003, p. 4).

As such, this extension of care documented in Miti's images may speak of the flood as an event where "occasions for creative transformation in political and ethical action" (Adkins, 2012, p. 513) occurred. It is in Miti's images that we can see open futures emerge that include a consideration of the fate of non-human animals. Such political and ethical actions in the context of climate change and displacement seem to be particularly needed within cities, as the urban functions as an "ever-shifting threshold, where urban and animal territories intersect and proliferate" (Pavoni & Mubi Brighenti, 2016, p. 4). Cities are thus valuable sites for experimenting with ethical propositions for shared, inter-species open futures.

5.3.3 URBAN REFUGEES AND THE AMBIGUITY OF RACE

This final subsection turns to another mobile group of people affected by the flood, namely Bangkok's growing urban refugee population (about 10 000 in 2015, according to UNHCR Thailand estimates). Their experiences are foregrounded to think through the ambiguities of race in the context of open climate futures. As mentioned with regard to migrant workers, societies rest

on social codes that function to mark bodies. However, neither social marks nor legislation enshrining them should be thought of as an absolute (Salter, 2013). Rather, what Deleuze and Guattari's work and the concept of assemblage can add to pondering the relation between questions of citizenship and disasters, is the multiplicity of directions, failures and ambiguities these social processes can take (ibid.).

While Thailand has been involved in hosting temporary refugee- and asylum seeker populations since the Indochinese Refugee Crisis in the mid-1970s, and until today shelters over 100 000 people from Myanmar and Laos at its western border, the country never ratified the International Refugee Convention (Davies, S.E. 2006; 2008). Thus, the social category "refugee" or "asylum seeker" is not recognised in Thai law. However, temporary protection is granted to the camp populations under the condition of their eventual return to the country of origin or their resettlement to third countries (Davies, S.E. 2006; 2008). Urban refugees and migrant workers thus share a similarly precarious legal position. Hence, even their "routine mobility" tends to be a complicated compilation of "movement[s that] are disrupted, involuntary, subjected to coercive force by others, and punctuated by incarceration, waiting, temporary immobilization, and sudden flights under unsafe conditions" (Sheller, 2012, p. 190). Within the city of Bangkok, ethnographic research with refugee communities from Pakistan and Sri Lanka and interviews with NGO and FBO practitioners in the field have revealed that mobility is an extremely contentious problem within the everyday lives of urban asylum seekers and refugees due to their legal status:

> *So it [immobility] is the issue that affects all of our clients, like everybody in the community. Because arrest and detention are simply part of what you are facing, it is nothing that we can do about it.*
>
> *[Community outreach officer Asylum Access, November 2015, Bangkok]*

Urban, international (rather than regional) refugees are mainly entering the city by airplane with temporary tourist visas, hoping to register with the UNHCR and be selected for the international resettlement

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programme to the US or other Western countries (Palmgren, 2013; Shum 2014). As the process of resettlement is a complicated, long and uncertain affair, most of them find themselves residing "illegally" in the city after the expiration of their tourist visas. While entering the country through the well-maintained channels of airport travel is often not the most difficult part of the refugee journey, hardship begins once they fall into the trap of becoming irregular aliens, coming to face the permanent threat of detention and expulsion:

> *I am not so sure if you are aware that all the refugees and even the asylum seekers are all illegal people here in Thailand. So whatever situation, disaster or whatever, it will be very difficult for them to really access any support or any service that is provided by the state.*
>
> *[Director, Asylum Access, October 2015, Bangkok]*

This ambivalent position towards refugees of the Thai state that focuses on resettlement rather than integration is placing refugees into similarly precarious positions of "illegality" as the millions of unregistered migrant works (Hedman, 2008). However, their day-to-day struggles for remaining mobile in a city (to obtain support from NGOs or FBOs, to purchase food or find temporary informal work) that does not acknowledge their special position within global mobile populations is not reducible to the functioning of legal codes. As a practitioner told me, their vulnerability also arises from their visibility within the city:

> *Yes! Definitely [there are racial prejudices]. In particular against people from Africa and Arabs […] As a Pakistani young man you stand out so much or even as a Somali man or boy, you are six foot tall and you just stand out so much!*
>
> *[Community outreach officer Asylum Access, November 2015, Bangkok]*

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"Standing out" is a bodily affair here involving height and skin colour, texture of hair, eye colour, chosen attire etc. Research on urban refugees in Bangkok confirms that despite prejudices against regional refugees from e.g. Myanmar or Laos they can disappear into the large pool of irregular migrants and avoid policing and deportation much more easily than international refugees who are few in number and often cause suspicion in ethnic Thai neighbourhoods (Palmgren, 2013; Shum, 2014). While "race" seems to matter here, it is not a straightforward thing to talk about "race" within a Thai context. The Thai language, for example, does not have a neat translation or equivalent for the concept, which led earlier scholars to assume that racialised discourses do not exist in the country (Weisman, 2000, p.118). A closer look at the Thai language suggests that the term *chaat*, used to describe differences between people, in fact encompasses a range of concepts such as ethnicity, citizenship, physical appearance, mother tongue and religion (Weisman, 2000, p. 115). As such, *chaat* is a veritable assemblage in itself, combining the *machinic*, physical properties of material bodies with abstract, *collective enunciations* of national belonging and citizenship rights. A mismatch of *chaat* – as documented in the ethnographic work of an Afro-American researcher in rural northern Thailand whose physical appearance does not conform with Thai expectations of Americans being "white" (Weisman, 2000) – attests to relations among skin colour, language and passport being able to create social confusion and cause alarm among Thais (Simone, 2011 a).

Diversity in phenotypes is thus commonly rationalised by the presence of tourists in the city. Refugees' bodily differences moreover form the bases of a rather unsympathetic social coding that leaves them highly visible and vulnerable in those parts of the city that are less frequented by legitimate (tourist and expatriate) foreigners. During participant observations at workshops for refugees and during volunteering work in a refugee school, strategies to "blend in" were frequently discussed. Refugees engage in an act of "becoming tourists" by fashioning their appearance in a manner that makes them look more acceptable where items like sunglasses and brightly coloured t-shirts or smart business attire are favoured. These items are not only chosen randomly, but reflect a conscious assembly of parts: they form a *machinic assemblage* where a particular conjunction between bodies, skin colour, clothes and accessories is formed in the desire for being mobile in the city.

This demonstrates that race can be thought of as an embodied and material event that involves differentiated phenotypes but also attachments of the body to all sorts of different objects, spaces and practices, highlighting that: "… race [should] not [be seen] as some essence, but as taking form immanently and temporarily through a particular conjunction of material and immaterial elements in an encounter as swirling affects, memories, and images stick to particular assemblages of skin,[…] [fashion, places]" (Swanton, 2010, p. 448). Race as an event emerges from the excess of possibilities of encounters on one hand and from the memories, routines and repetitions of the everyday on the other (Swanton, 2010, p. 451). In the specific ethnographic accounts presented within Swanton's paper, race emerges from the interaction between particular types of flashy cars, taxi drivers, white neighbourhoods, and drug consumption patterns. "So although conjunctions between a BMW, brown skin, designer clothes, and a park might stir suspicions, if a white girl is plugged into this assemblage of becoming-dealer we might witness a phase change as suspicions are amplified: a becoming-groomer" (Swanton, 2010, p. 457). Similarly, refugees and asylum seekers in Bangkok choose particular clothes and objects to wear to blend in and lessen suspicion, thus "becoming tourists", which also involves choices of where to go in the city.

Given the precarious everyday experiences of urban refugees in Bangkok and the range of literature that discusses the imbrication of race in disaster situations[6], I was preparing myself to hear rather frustrating accounts of intolerance and suffering of urban refugees in Bangkok during the inundation; however, the 2011 flood, I was told, actually had a few rather paradoxical effects on mobility, as this interview sequence with a practitioner shows:

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[6] In particular research on the demobilising effects of Hurricane Katrina (Cresswell, 2008; Grieco & Hine, 2008; Sims, 2010) have shown how race became a crucial disabler of pre- and post-disaster mobility. While the percentage of African American citizens in New Orleans without access to cars was much higher than that of white Americans, their capacity to evacuate was severely hampered. After the hurricane had destroyed and flooded large parts of the city, racialised fears triggered prolonged and intensified sufferings of the Afro-American population. Race in this disaster was expressed and experienced through a "political cognition" (Protevi, 2009, p. 173) which has prevailed in the city of New Orleans for several centuries and heavily contributed to the mismanagement of the disaster's aftermath, including the immobilisation of flood victims.

The suspicions that Swanton talks about in the aforementioned quote, which can be amplified or altered depending on the material components involved in the assemblage, were apparently lessened when refugees tried to make their way through the flooded city of Bangkok. The machinic assemblage of race thus is not a permanently fixed constellation, but has rather been "propose[d thinking with] the figure of viscosity. Neither perfectly fluid nor solid, the viscous invokes surface tension and resistance to perturbation and mixing" (Saldanha, 2006, p. 18). The flood here had the paradoxical effect of temporarily altering the viscosity involved in racialising bodies, making the significance of phenotypes in marking, sorting and governing bodies temporarily more fluid and thus less discriminatory in the reported encounter. The affordances of the new hydro-reality in Bangkok were short-lived moments of restructured priorities. Policing refugees hence did not rank high on the agendas. Rather, these accounts show how assemblage thinking allows us to also consider the anomalies and unexpected, surprising acts of passion that mark "urban life itself" (Simone, 2011). The excess of water during the flood emphasised policing practices towards migrant workers but apparently led to situations of ad hoc generosity or at least a lack of policing urban refugees. This moment of generosity links to what Clark (2005) wrote

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about the Tsunami that hit Thailand in 2004: "As the water receded, we caught a glimpse of a very different economy, a kind of give without take, generosity without expectation of any return, hospitality without limits or conditions. This other economy was an excessive one, it broke out of the closed circuits of exchange […]" (Clark, 2005, p. 385).

As such, the flood assemblage triggered (im)mobilities lacking "a single overarching framework that explains all systems of control" (Salter, 2013, p. 12). With regard to the workings of race and racialised perceptions in Bangkok, Simone has mentioned that reading and reacting towards these social codes can often be provisional and arbitrary where people (street level bureaucrats, local informal economy participants, racialised "others") meet (Simone, 2011, p. 130). The "political cognition" (Protevi, 2009), involved in reading some social markers (here understood as: race) during the Bangkok flood, were less rigid and produced more ambivalent effects, thus affording diverse slippages – at least for a short few weeks[7]. Crucially, such slippages refer us back to possible open futures born out of disaster situations:

"To experience a disaster is to feel your world fracturing or tearing. But to respond to someone in need is also a kind of rending or opening of your world. And of someone else's world to you. Disasters and unconditional generosity, then, are both ways of being thrown off course, of being wrenched out of the circuit of your usual movements and activities" (Clark, 2005, p. 385).

5.4 CONCLUSION

This chapter inquired into how assemblage thinking can enrich our conceptualisation of differentiated, urban displacement experiences during extreme weather events. The chapter proceeded by mapping a topology of displacement emerging within the flood assemblage that involved molar reshufflings in economic and socio-political relations. While the flood altered the flows of capital with regard to production sites in the vicinity of Bangkok, the essential relation between capital and (cheap) labour was maintained. As such, the forms of displacement within the political economy reveal a

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[7] Interviews conducted in 2015 were all overshadowed by the Erawan Shrine Bombing and the attacks in Paris. Both events have led to a massive and brutal wave of raids and arrests in the refugee community, further emphasising the fluidity and transformative capacities of machinic assemblages which easily were plugged into national security concerns and anti-terrorist rhetorics. The wider political shift from elected government in 2011 to military junta in 2014 should also be considered as a force within the reconstallation of forces.

topological property. Similarly, the flood assemblage has shown how displacement experiences of different mobile bodies (e.g. that of tourists and migrant workers) were embedded in a topology of power that distributes mobility options unequally. While the flood prevented tourist flows into the country during the time of inundation, they could reschedule to other locations easily. Migrant workers, however, were faced with severe policing efforts contributing to their de-mobilisation during the inundation. Attending to different socio-economic status groups thus enriches a conceptualisation of climate change and displacement, as it reveals the unequal topological relations in which already mobile bodies are embedded. Perceiving the flood as assemblage has moreover served to uncover how embodied experiences alerted urban dwellers to the potential dangers of the flood. The interview with the Cohen couple serves as a crucial example where relocation during the flood did not happen because of newspaper warnings, but because of a sensory experience within their home. Through the concept of duration as a crucial temporal dimension within assemblage thinking, the feedback loops between our senses and our environments are dependent on the duration of our immersion, rather than on the material properties of the environments. In other words, while the flood altered the sensory composition of the urban milieu, the relation between the sensing body and the milieu was retained as it depended on a temporal relation of *duration*. Assemblage thinking adds to our understanding of weather events by paying attention to the sensory register with which we experience environmental change. Thus, it serves to unveil the affective and material politics involved in inundation.

The second section of the chapter maps the limits of the topological features of displacement produced within the flood assemblage, in the search for *lines of flight* that may animate an imagination of open futures. Several empirical examples are presented that serve as provocations to think through the politics of such open futures. The uncanny mixing and mingling of water, mud and bacteria in Bangkok's infrastructure is foregrounded as a temporal milieu where new hydro-realities emerge. Whilst these realities may present a threat to human beings, the fluvial exchanges in Bangkok's underground alert us to the material force that render the flood assemblage beyond human control. The force of water to disrupt, intermingle and dissolve substances demonstrates the limits of our attempts to govern flows and design metabolic

urban relations. Assemblage theory's contribution to our understanding of climate change and displacement within extreme weather events here lies in the acknowledgment of our own limited agency and its insistence on searching for the agents that are enjoining forces within the complexity of such events. Above ground, the urban materiality presents us with less daunting prospects, inviting a more hopeful appreciation of the urban material politics involved in the flood assemblage. Construction sites, second floors and high-rise condos functioned as zones of vertical shelter and temporary dwelling during the inundation. Miti's images speak of the affordances of the urban materiality that provided Bangkokians with a temporary dwelling space. The concept of assemblage is here useful because it helps us to appreciate the possibility for change and abrupt alterations within urban life itself. Furthermore, the vitalist ontology of this dissertation triggered a substantial reflection on "more-than-human" displacement during the flood. As Miti's images and Oat's statements show, the flood assemblage was marked by lines of flight that led to various moments of inter-species care. As urban spaces are far from being exclusive zones of human habitation, the acts of solidarity across species that struggled in their own ways to live through the flood speaks to the necessity to consider the potential for "more-than-human" open futures. The density of urban spaces poses additional challenges to such an ethical position and may prove fertile, yet complex, experimental grounds to develop such shared futures.

A glimpse into the potentiality of open futures might also be found in the very ambiguity of race in the policing of international urban refugees. While the flood had severe demobilising effects for many migrant workers, refugees were reportedly freer to move during the inundation. This does not demonstrate that e.g. race is unimportant during times of flooding, but rather shows more generally that the altered hydro-reality of the city created the material context in which slippages and failures to understand racial codes on the side of authorities led to enhanced mobility options. Assemblage thinking offers a way of conceptualising such ambiguities through a perception of race as machinic assemblage. To create open futures thus seems to involve a fostering of situations in which the ready identification of race is complicated in such a way that a "thousand tiny races" (Saldanha, 2006, p. 20) proliferate

to a degree that they lose their power of coding people, but rather become merely a difference in and of itself.

Leading on to the next chapter, the quote from an interview with the Spokesperson of the National Refugee Council of Thailand is revealing:

> *This [the 2011 flood] was actually the first time that Bangkok people were forced to migrate [....] [this was] the first time that we saw many Bangkokians had to leave their house and then seek shelters in other provinces or travel somewhere because they could not stay home and that actually was the first time that they experienced something like a refugee like situation*
>
> *[Director Thai National Refugee Council, November 2015, Bangkok]*

The quote signals that even after the flooding was over, the inundation had triggered the emergence of a new kind of figuration, namely that of the "flood refugee" in Bangkok. A novel combination between experiences of displacement and natural disaster had emerged in 2011. As the chapter has shown, this figuration is marked by complexities, and emerged within a multiplicity of intersecting relations (political, economic, racial, "more-than-human"). While the chapter thus devoted itself to resisting simplifications and to attending to difference in itself, the Thai government resorted to broader-brushed actions to alter the city's flood resilience to avoid a recurrence of "flood refugees" in the future. The following chapter attends to these measures and political struggles that emerged in their response.

CHAPTER 6
URBAN HYDRO-FUTURES

6.1 INTRODUCTION

> *"Now the goddess of the environment is angry and she wants revenge. And people get scared. And this scare is getting two things: one is you want to protect yourself. But also, the good thing is: also now every time you want to build a new house or a new factory you need to consider whether it is in the way of the goddess.*
>
> *Is it somewhere where the goddess will strike you?"*
>
> *(BIG TREE male activist, February 2016, Bangkok)*

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> *"At that time right after the flood it was good to tell people about climate change!*
>
> *They suddenly listened."*
>
> *(Thongchai, January 2016, Bangkok)*

Despite the heterogeneous assessments and experiences of the 2011 flood, various interview partners pointed out that the inundation of the Thai capital served as a window of opportunity to address climate change. as the above quotes suggest. Different modes of reasoning about the causes of the flood (e.g. by evoking the fear of divine revenge) did not stand in the way of feeling the need to enhance flood protection in the city. Yet, the political turmoil of the following years, which resulted in the 19th military coup on May 22nd in 2014, soon began to dominate internal politics in Thailand (Sopranzetti, 2016; Marks, 2015; Chachavalpongpun, 2014). Only after the junta's takeover of power were measures to tackle climate change in Bangkok recommended, as a GIZ expert said in an interview.

This chapter investigates and compares the politics and tactics of resistance that evolved against two urban infrastructure projects designed to make Bangkok more flood-resistant. Project one, a River Promenade, proposes a pier for cycling and walking along the Chao Phraya River, to increase both

urban leisure space and green transport. Moreover, it is claimed that the embankment around the promenade will further shield the city from flooding. The second project involves the widening of two old *khlongs* (Khlong Bang Sue and Lat Prao) in the northern district Huay Kwang to facilitate easier flood water drainage. Informal settlements along the *khlongs* are here threatened with eviction. Attending to the struggles over relocations in the context of climate change and urban futures reveals the messiness beneath political commitments and interests invested in climate-proofing a city: "Political projects are not only (and not even primarily) a matter of reason and interests but instead an engagement with our power to be affected in all its messiness and, sometimes, its ugliness" (Hardt, 2015, p. 222). The chapter argues that the molecular flows of desire of the *khlong* and river communities to stay put contradict, complicate and challenge the molar forces of power to de- and re-territorialise a particular segment of Bangkok's waterscape. The political arises in the very moment when these contrasting desires meet and as the state resorts to force in order to capture and overcode molecular formations of desire. In a climate change-impacted present and future such manoeuvres may increase in number and pose, again and again, difficult questions about what ethical maxims should be held up and defended in climate change-impacted cities. The chapter seeks to answer the fifth research question: How do different urban struggles organise to articulate the affective and material politics of Bangkok's contested hydro-futures?

The two different urban struggles investigated here developed distinct strategies of organising dissent, thus inviting an intra-urban comparative perspective. I argue that the analysis of these strategies helps us to perceive the ways Bangkok's urban climate futures might be enacted, contested and potentially altered. The chapter commences by reviewing literature that conceptualises political resistance and social struggles through assemblage theory and uses the deleuzoguattarian notion of a *nomadic war machine* to liberate desires within smooth space (McFarlane, 2009; 2011 a; Bergen, 2010; Braidotti, 2006, 2010; Wood et al. 2013; Watt, 2016). Afterwards, the tactics of resistance within the work of the activist groups Friends of the River (FOR) and BIG TREE against the planned Chao Phraya promenade are presented. The section highlights how the group's successful utilisation of info-graphics and decentralised actions across the city constituted a nomadic war machine that

enabled a temporary smoothing of space for open futures. Section 6.3 then turns to the more arborescent nature of the struggles along Khlong Bang Sue and Lat Prao. Here, ethnographic research and in-depth interviews with the respective community representatives reveal that tactics of negotiating different spatial uses with local authorities proved unfit to engage wider audiences and cultivate the power to affect others. The chapter concludes that comparing the different tactics crucially sensitises us to the resources needed to sustain political dissent in order to escape the molar forces that seek to capture molecular desire, and that climate change as a powerful geo-force may alter the grounds of local communities to inscribe their presence in the city.

6.2 ACTIVIST-ASSEMBLAGES AND NOMADIC WAR MACHINES

While the previous chapters used the concept of assemblage to think both of slow socio-material urban transformations and a sudden-onset events like the 2011 flood, this chapter seeks to make use of the concept of assemblage by bringing its analytical insights to bear on the organisation of urban protests in Bangkok. In the context of social movement studies and the political tactics they employ, authors have repeatedly drawn on Deleuze and Guattari's concepts (e.g. McFarlane, 2009; Wood et al. 2013; Watt, 2016). Tampio (2009, p. 385) says about perceiving progressive struggles as assemblages:

"A left assemblage can take the form of a political party, a non-governmental organization, an anti-war rally, a school environmental club, a punk rock collective, a campaign to legalize gay marriage, or any loose and provisional material and expressive body that works for freedom and equality. Deleuze envisioned the left as a network of intersecting and conflicting assemblages – a garden rather than a tree".

Struggles marked by decentralised bodies and networks rather than more orthodox political organisations (e.g. political parties or worker's unions) seem fit to be perceived as what Tampio called an intersecting "garden". The notion of assemblage is useful to make sense of their tactics, practices and politics (Wood et al. 2013; McFarlane, 2009, Tampio 2009). McFarlane's (2009) characterisation of social movements as "transnational assemblages" focuses on the rhizomic tendencies of such networks that allow for multiple entryways and flat hierarchies. Participants come together and disperse quickly, disseminating ideas, political actions, or material objects through direct contact (e.g. in workshops or street protests) or via communications media. Such assemblages of people, materials and practices

enhance their capacity to affect people and advance their causes through virtual (emails, social media, etc) as well as physical contacts (e.g. through events). Crucially, such forms of cooperation and dissemination are more uncoordinated than the distribution of information through centralised channels (e.g. sending out a party programme) (Wood et al. 2013). The concept of assemblage moreover serves to make sense of the increasing heterogeneity of social movements. Increasingly, political struggles tend to be expressed through heterogeneous alliances of groups without clear hierarchies, whose political actions are not based on centralised decision-making, but which can spring up at any given time and moment (Wood et al., 2013, p. 437).

The transnational "Occupy" movement has been usefully thought of as an assemblage, which developed its strength precisely through the synergies that emerged between its heterogeneous parts: "In using the art of assembly as a tool, dwellers at [...] Occupy sites often found that the resources to do so were internal to the emerging community. Thus, as news outlets reported, in New York's Zuccotti park, a Sheraton chef who had been laid off was part of a team providing sustenance for the entire encampment" (Arenas, 2014, p. 441). Within the shared dwelling, learning and protesting activities, the "Occupy" movement as assemblage became more powerful than its individual parts, and thus was able to morph into an incredibly pluralistic transnational network of resistance whilst retaining a sense of locality and groundedness within the experiences of the activists who contributed their time, resources and previous knowledge (ibid.). The aim of these political assemblages is the creation of provisional "smooth space". Essentially, smooth space is a space freed from the over-coding forces of e.g. the state apparatus or capitalism where alternative actualisations of virtual potentialities are made possible (Watt, 2016). Within this chapter, smooth space arises in the niches of the Bangkok Art and Culture Centre and a public park where the NGO *Friends of the River* assembled exhibitions and public talks that created a time-space where alternative urban hydro-futures could be explored.

To achieve such temporal smooth space, left assemblages may employ what Watt called "a nomadic war machine" (2016, p. 299). This machine is a particular kind of human/non-human assemblage that is used to fight (be "at war") codifying and striating powers. Deleuze and Guattari's example of a

nomadic war machine can be found in the form of an assemblage formed between warrior-horse-spear in *Treatise on Nomadology*. The individual components of this assemblage form a temporary alignment, augmenting their individual impacts. Fighting against the emerging sedentary state formations, the warrior-horse-spear assemblage seeks to fend off coding and striating powers to protect his/her nomadic smooth space (Deleuze & Guattari, 2013, p. 462).

Watt (2016) draws on a housing struggle in Eastern London to illustrate how a radically heterogeneous group of young urban poor mothers and socialist activists formed a provisional assemblage, aligning their desire for fairer housing conditions in the city by producing a "nomadic war machine" and putting it to work against the housing authorities. After failing to engage the district mayor into a political debate about the housing situation of the young mothers, they decided to temporarily occupy flats owned by the East Thames Housing Association. Pushing into these estates with their children and pushchairs and their socialist allies, they created a temporary smooth space that opened up room for a short alternative actualisation of the socio-material housing realities for the mothers (Watt, 2016, p. 307). The warrior-horse-spear war machine is here replaced with a mother-pushchair-posters assemblage. As Watt explains, this material alignment increased the mothers' sense of their own power to act. It augmented what Hardt had termed their "power to affect and to be affected" (2015). In the following empirical analysis, the role of digital and tangible art objects designed by the NGO *Friends of the River* and their exhibition in an art museum in Bangkok as well as their participation at the yearly Loy Krathong celebrations are discussed as forming a nomadic war machine aimed at creating smooth space and alternative futures in the city.

However, as Deleuze and Guattari have famously warned their readers: "Never believe that a smooth space will suffice to save us" (2013, p. 581). In Ertürk et al.'s (2010) contribution, capitalist hedge funds are demonstrated to share the essential characteristics of a war machine, de-territorialising state powers and smoothing space for capitalist interests and transactions. In both Watt and Ertürk et al.'s examples, it becomes clear that the provisional smooth space is always in danger of being recaptured by stronger forces, re-coded and eventually turned into striated space.

Apart from capitalism, a powerful agent for striating space is the state. The state is thought of as a hierarchical, arborescent structure that inscribes itself through acts of monopolised force or legal tools, operating in binary logics. These processes are understood as resulting in a space that is counted, coded and regularised: a space that is made governable (Deleuze & Guattari, 2013, p. 439). The figure of the tree is picked up by Deleuze and Guattari to explain arborescent structures where "the tree is filiation, but the rhizome is alliance" (Deleuze & Guattari, 2013, p. 26). Wood et al. (2013), have usefully addressed the interplay between what they call "arborescent" and "rhizomic" proponents within the organisation of social protests. Following the deleuzoguattarian awareness that analytical ideal types are *de facto* always mixed, the two proponents are not thought of as mutually exclusive, but as intermingling within the complexity of social struggles. While left assemblages can be thought of as "rhizomic", "arborescent" organisations that rely on more centralised ways of organising resistance are still common in most democratic countries (ibid.). Crucially, Wood et al. (2013) point out that these tendencies of putting hierarchies and centralised mechanisms of responsibilities and representation in order can also be found in social struggles. Drawing on the example of traditional rural protests in Great Britain between the 1950s and 1990s, rural social movements took an arborescent form by organising resistance in mass membership organisations, operating through logics of representation and focusing on a mirroring of state tactics in which only elected leaders participated in negotiating political deals. In particular, the social struggles at Khlong Lat Prao and Khlong Bang Sue portrayed in this chapter reveal a more arborescent structure. Drawn closely into the government's logic of top-down communications, focusing on representation rather than creative participation, the communities had little chance of reaching out to other struggles in the city or the media to find support for their cause to remain at the khlong.

Table 6.1 summarises the most important differences between political assemblages and arborescent social struggles and introduces the categories analysed within the empirical section of this final chapter.

	Arborescent Organisations	**Political Assemblages**
How are protesters organised?	Membership based on formal representation	Loose and provisional alliances structured along informal and low hierarchies
How do they interact with their opponents, e.g. the state?	Through negotiations with respective opponents (e.g. state bureaucracies)	Sometimes confrontational, sometimes indirect tactics to create a public for their demands
What are their political tactics?	Negotiations, formal or legal complaints	"Nomadic war machines": socio-material assemblages that augment their capacity to act
Where do they become active?	"Negotiating striated space", closed-door meetings, round tables, court rooms	"Creating smooth space" for (provisional) alternative futures

Table 6.1. Based on Watt (2016), Arenas (2014), Wood et al. (2013), McFarlane (2009), Tampio, 2009. Own design.

6.3 THE RIVER PROMENADE PROJECT: BETWEEN LEISURE SPACE AND CLIMATE CHANGE

This section presents the struggles over the redevelopment of the Chao Phraya River and proposes thinking of them as a political assemblage.

6.3.1 POLITICS AT THE WATERFRONT

This subsection provides background information to the planned re-construction of the Chao Phraya riverfront and discusses how assemblage thinking can help us perceive the emerging struggles over the waterfront, where it is never decided a priori whose future is planned or realised. The duration between planning and implementation is seen as the political duration in which the activist assemblage could emerge.

The proposed transformation of the Chao Phraya riverbank has been frequently put among the most controversial infrastructure measures proposed by the current junta (Kongrut, 12th June 2015; Wancharoen, 18th November 2015; Wancharoen, 23rd April 2016; Finn, 12th February 2017). Backed by powerful officials of the BMA and the self-declared Prime Minister General Prayut Chan-o-Cha, the proposed project involves the construction of a highway-like promenade parallel to the shore of the river, to increase green transport through space for biking and walking and enhance flood protection

through a raised river embankment (AECEN, 19th September 2016). On May 15th 2015, General Chan-o-cha announced the following in his weekly broadcast:

> *The first project [I want to announce] is along the Chao Phraya River in order to improve the scenery and so that people can use [it] for exercising, cycling and other recreational use. We will construct a walkway on either bank of the river starting from Rama 7 Bridge to Somdet Phra Pinklao Bridge a total distance of 7 kilometers, hence, total construction will be 14 kilometers with 7 kilometers on each side of the river bank. Construction plan will start in 2015, with a certain timeframe, by which the Ministry of Interior, Bangkok Metropolitan Administration and concern agencies to decide on how to proceed with the project in order to finish on time, the timeframe for this project is expected to be completed in 18 months, starting from January 2016 and to finish in July 2017. This is a concept of the government which the Prime Minister has initiated for the people to enjoy. (General Chan-o-cha, Public Statement, 15th May 2015).*

Map 6.1. shows the start and end point of the first section of the proposed promenade, stretching 7 kilometres on each side of the Chao Phraya:

Image 6.1. Screenshot taken from webpage:
http://www.khaosodenglish.com/news/bangkok/2016/03/30/1459318588/
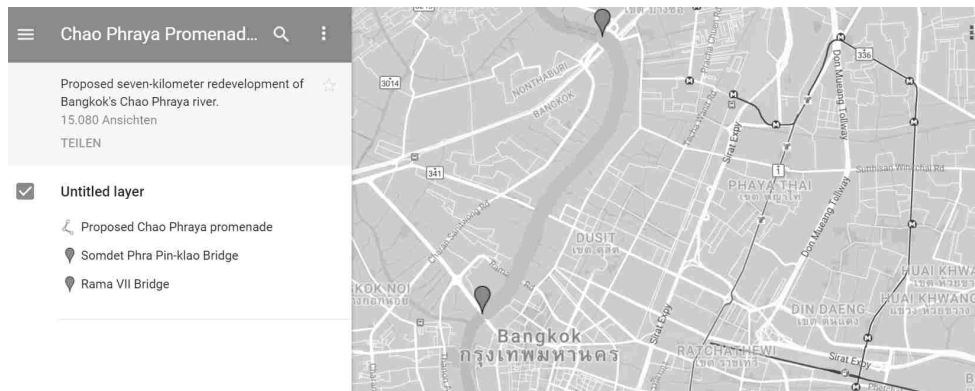
While the general's statement focuses on the benefits of the pier as a new and attractive leisure space within the city, later media reports reveal that authorities argued for the construction based on its triple function as a) public space, b) green urban transport through wide bicycle lanes, and c) improved flood protection through an enlarged flood wall (Kongrut, 12th June 2015; Finn, 12th February 2017). The junta also released a construction plan that was circulated widely and reproduced in an information leaflet by Friends of the River:
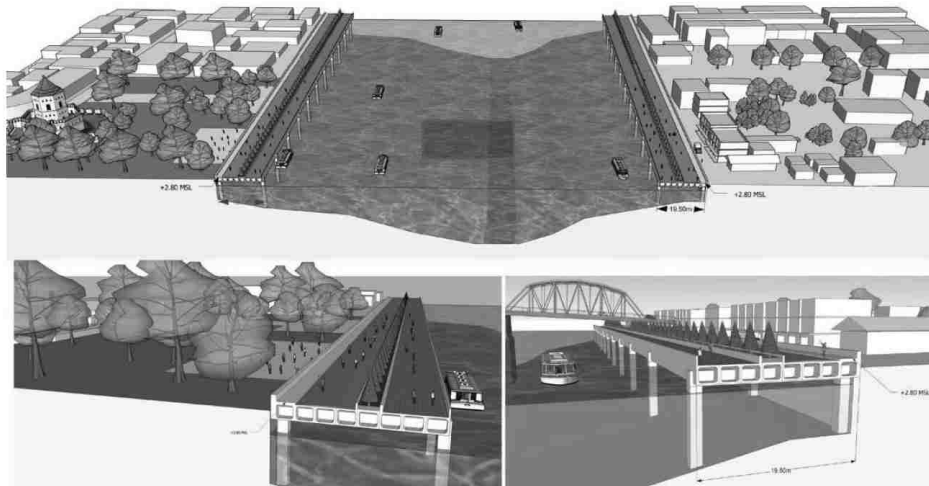
Design proposal of the regeneration of Chaophraya Riverbank (6th May 2015)
Source: Urban Planning Department, Chulalongkorn University

Image 6.2. Image of River Promenade Plan. Source: FOR brochure, given to me during interview.

After the circulation of the government plans in May 2015, Bangkok-based newspapers such as *The Bangkok Post* and *The Nation* as well as the *Thai Public Broad Casting* company, and smaller online news such as *Thailand Construction News, the Asian News Network, Khaosodenglish* and *BK Asia City*, reported on this project frequently, essentially conveying this narrative: Since at least the 1990s, plans have been sporadically circulated to re-design the Chao Phraya river banks. The initial plan envisioned building a proper highway along the water front with bus and car lanes in order to relieve the congested inner city roads. The idea was attributed to Winai Somphong, a former Democrat Party member (AECEN, 19th September 2016). During the late 1980s, amid the economic and real estate boom, the river was merely perceived as a vacant space, conveniently running north-to-south through the sprawling capital. As such, the Chao Phraya was envisioned as the ideal space for constructing a new, fast lane to sooth increasingly frustrated commuters. The 1997 financial crash and related political turmoil, however, had led to forgetting about the plan until the former Yingluck government re-considered the proposal. After the devastating 2011 flood, and the coup d'état in 2014, the proposed plans were picked up again, yet with a new "green dimension" stressing the structure's function as a flood levy as well as a bike lane (Kongrut, 12th June 2015; Wancharoen, 18th November 2015; Wancharoen, 23rd April 2016; Finn, 12th February 2017). Discussing the proposal with the Director of the Office of Natural Resources and Environmental Policy and

Planning (ONEP) (part of the Thai Ministry of Natural Resources and the Environment), the plans seemed to be backed by Thailand's highest authority:

> *In the beginning it was just a road to release the congested traffic. But I think at the same time as the crown prince began the promotion of bicycling activities, people became more interested in biking. So they proposed that at the same time we can have the track for biking [at the promenade]. And to me this is ok. It is like projects in Korea or Japan. But the NGOs here, they are against it or oppose the project.*
>
> *[Director, ONEP, January 2016, Bangkok]*

The yearly biking activities to celebrate the king's and queen's birthdays have indeed been picked up widely within Thai society. During December 2015, preparations for the event were in full swing, with merchandise being sold at markets and public spaces. Image 6.3 shows t-shirts being sold in many marketplaces in Bangkok in 2015 to support the Bike for Dad event.

Image 6.3. Bike for Dad Merchandise. Own Image.

Already in 2007, the BMA's policy plan to combat climate change made reference to the Crown and various royal events such as the biking parades and a "plant a tree day" in honour of the queen's birthday, as appropriate ways of promoting climate change mitigation in the capital (BMA, 2007). The

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proposed plan to revitalise the waterfront and "improve the scenery", as General Chan-o-cha has put it in the statement, also seems to fit well into the envisioned economic development of the riverfront. It is hoped that a "clean" riverfront will attract even more high-end retailers, condos and hotel chains like the new luxury housing project *IconSiam* (http://iconsiam.com/en/iconsiam/pressroom/76). The old part of Bangkok (Ko Rathanakosin Island) that lies right next to the proposed western bit of the promenade is moreover experiencing increased investment in transport infrastructure. Business journals are already praising the opportunities for high-end real estate projects along the river, along the planned new "Landmark of Bangkok" promenade (Srimalee, 2015; Gluckman, 2015).

The project thus seems to be entangled in a web of motifs: economic development, flood protection and displaying royal prestige and authority are placed alongside climate change mitigation efforts through "green transport" infrastructure. Assemblage theory contributes to perceiving these contradictory elements as a relational web of positions in which actors never quite advance a hegemonic position, but are confronted with their own limitations and failures (Prince, 2011). In the opaque workings of the city's administration, with its many conflicting institutions, it seems never to be decided a priori whose future is planned, anticipated or imagined – let alone deciding who has the power to realise such proposed plans. The complexities of national and urban administration remain, despite the seizure of power by the military in 2014.

"The state" is a complex web of changing relations that achieves a "unity of composition" (Deleuze & Guattari, 2013, p. 497), despite its (mis)alignments of heterogeneous socio-material, discursive and political processes and actors. The difficulty of speaking of "the state" in Thailand can best be demonstrated when looking at the recent power struggles between the so-called Red and Yellow Shirts in Bangkok. Here the confrontation between protesters was mirrored by a confrontation of armed forces of the country as the military traditionally supports the monarchy and thus the yellow shirts but the highly equipped and trained (-due to financial support and training by the US during the cold war period-) police forces expressed their loyalty with outset Prime minister Taksin who was part of the Bangkok Police before turning to politics (Handley, 2006; Nostitz, 2009). In the following sequence of the interview

with the environmental activists from BIG TREES the shifting alliances between state institutions and the BMA were discussed:

"We have a love-hate relationship with the BMA for example. they know that we will attack them and they know that they can work with us. we have something to offer to them".

[BIG TREE male activist, February 2016, Bangkok]

"I mean we are really good friends of the parks division of the BMA, people who look up the trees in the public parks. but some other departments may not like to work with us so much. so... when there is a project that means taking away trees and green areas... but it is from another department within the BMA, the parks people will come and tell us secretly. "you know... these people are doing these horrible things and I cannot say anything publicly... not in the meetings... please do something about it because otherwise you will lose this park and this area""

[BIG TREE female activist, February 2016, Bangkok]

The group thrives on being perceived as neither friend nor foe and it is precisely by their ambivalent roles as provocateur or secrete ally that they achieve maintaining an arms' length from the authorities without, however, positioning themselves as eternal enemies. This ambivalence of being close to the centres of power, yet not being fully incorporated into the structures of the state resembles a passage Deleuze and Guattari wrote on the compositions and the power arrangements in a pack of wolves, where the wolves are bound to negotiate their every movement at the periphery of the desert without ever fully occupying its centre (Deleuze & Guattari, 2012). It also resembles the nomadic position explored in the previous chapter.

What is more, this ambivalence seems to further resonate with postcolonial reflections on urban positionalities. Ananya Roy points to a certain pragmatism of the urban poor which for her "is a key feature of subaltern urbanism" (Roy, 2011, p. 228). Building on the work of Spivak, Roy conceptualises this form of postcolonial, subaltern urbanism as a form of limit

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–in particular a limit of recognition and knowledge. I propose thinking about the actions of BIG TREES as a form of testing and teasing out limits. These limits are mobile and in flux as governments are unstable in the country. Such a perspective might help to appreciate their actions and politics vis á vis more powerful institutions through a postcolonial lens. As the interview with the BIG TREE spokesperson revealed, potentially "Western" notions of politics following a left/right divide equally find their limit here:

> *"For the environmentalists and those who work with the communities, they don't really care about the ideology. They care about results. As long as the military or any other government delivers the result that saves the environment or the community, they are happy"*
>
> *[BIG TREE male activist, February 2016, Bangkok].*

This remark calls into question the Western tendency to think of progressive politics as being "leftist" (e.g. compare with the notion of a "left assemblage" Tampio, 2009). Without wanting to diminish or negate the possibility of progressive leftist struggles in the Global South (-the examples are plenty and span from the Mexican Zapatista movement to the uprisings in Tunisia or Egypt in 2011-) the highly policed political Thai context might warrant a somewhat different vocabulary to describe "progressive politics"? Sandwiched between the authoritarian BMA, military national dictatorship and quiet (but undisputed and undisputable) power of the monarchy, resistance towards particular projects seems to spring from the uncomfortable and ambivalent "middle position" –rather than from the left- in the city of Bangkok. In a truly "rhizomic" way, the pragmatism of the group thinks in skirmishes and interventions rather than in epic battles where. It seems progress in Bangkok might only be achievable one project at a time.

A look at other climate change adaptation projects in the region (e.g. the Peta Jakarta Project *https://petajakarta.org/banjir/in/research/index.html*) seems to confirm that pragmatism and alliance building across selected governmental agencies, private companies, universities, local communities and activist groups is championed in attempts to change local power dynamics in urban planning. In Jakarta such an alliance has started experimenting with

community mapping and crowd sourced mapping to enhance the resilience of informal settlements along Jakarta's Ciliwung River (Padawangi, 2016, p. 148). Here evictions, corruption and political disinterest have shaped an atmosphere of distrust in state institutions at the local community that is repeatedly threatened with seasonal flooding. Social media was extensively used to communicate floods in real-life time and to increase the awareness and resilience of the local community. Yet, despite the broad alliance gathered for support and the innovative strategies used, evictions in the name of flood resilience did not stop in the research areas, as the governments maintains its top-down approach to planning (ibid. 156). Thus outcomes are never predetermined in such struggles and the lack of democratic discourses on urban planning, climate change resilience and social inclusiveness severely undercut the potential of more participatory approaches.

To achieve some form of impact, or "pushing" of the state-assemblage, the gap between the projects' planning and implementation phase creates the necessary space-time to intervene and re-inscribe minoritarian ideas about urban futures into Bangkok's city planning. As the FOR activist repeatedly pointed out, more time was needed to fully comprehend the complex living arrangements of humans and non-humans along the waterfront:

> *This waterfront is corresponding to all the different uses at the edge... so it is a very long process of understanding all the parties involved.*
>
> *[FOR Spokesperson, November 2015, Bangkok]*

Advocating for a longer period of studying the area and planning the new pier was hence crucial for the activists. It is this duration between planning and building the river promenade that emerges as a highly political interval which activist groups have claimed in order to stretch the planning phase to arrive at a more inclusive river future. Prolonging this gap can be seen as an active labour to keep open the multiplicities that make up the potential river future. As such, prolonging a particular duration reveals a first important predicament to assembling resistance. The politicisation of time and the speed of processes allow for the creation of an interval in which alternative political perspectives and action can emerge. Moreover, in the

context of the uncanny workings of the Thai junta, who can rely on *Article 44* to silence and arrest any form of social protest, prolonging the possibility of alternative river plans to emerge can be interpreted as an important act to hold on to potentially open futures[8].

6.3.2 ASSEMBLING RESISTANCE

This subsection demonstrates how social activists came together to learn more about the river's socio-material composition, its ecology and local inhabitants. Learning is seen as the key to articulating resistance here. Yet, the section also raises awareness over the ambiguities involved in learning within social struggles.

In late October 2015, I met the founder and spokesperson Yossapon of the NGO *Friends of the River* for an interview. During the conversation, it became obvious that the young professionals who started the NGO in response to the junta's promenade plans were not activists in the first place but gradually learned how to challenge the government's plans. Through their own work on a much smaller project along the Chao Phraya bank, they became aware of the intense socio-economic mix of the local river communities. The waterfront can be perceived as a translocal space where radically different designs, housing practices, transport options and livelihoods coexist and merge. While this blend of people, materials, world views and aspirations are intense and lively, they are rarely "beautiful" in a conventional sense. As such, Friends of the River do not oppose a redevelopment of the river per se, but take issue with the unifying, homogenous design proposed by the junta which shows little respect for the diversity of the river's socio-ecological milieus. A severe element of the project's contestation thus lies in its monolithic design:

> *Even with this small [river front] section where we worked [on a different project], so much [...] more [studying needs] to be done before the actual project can be built. And that is why it is very strange to build*

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[8] Since the military took over power in May 2014, it has ruled by martial law. The main instrument used to restrict democratic resistance to their seizure of power is located in Article 44 of the interim constitution, which grants sweeping powers to the government to enforce peace and stability. Demonstrations and gatherings to articulate public demands are made illegal through this article (Sopranzetti, 2016; Chachavalpongpun, 2014).

something that looks the same all the way [like the proposed promenade]. Because in the end it will not work at all!

[FOR Spokesperson, November 2015, Bangkok]

As chapter 4 of this dissertation has argued, concrete and the engineering of road-like structures are severely disliked by the group of young landscape architects. Animated by the wish to intervene into the junta's plans, FOR engaged into a continuous process of learning to transform their initial set of concerns into actions that allowed for a more effective way of expressing dissent:

Well, in the beginning we didn't really know how to move things on... and so they [BIG TREE and Makasan; local NGOs] helped us a lot to guide us with what should be done.

[FOR Spokesperson, November 2015, Bangkok]

I later met the couple who founded BIG TREE, and about their perspective on the cooperation with FOR:

So instead of having a well-organised network that meets each other regularly, we tend to get active when something happens. When we need to do a project. So I did not know the Friends of the River people that well before, but when the government announced that project ... [we got together and] basically we will start with "let's have a coffee", "let us meet and get together somewhere".

[BIG TREE female activist, February 2016, Bangkok]

This form of ad-hoc organisation along topical issues within the city closely mirrors Wood et al. (2013)'s description of a movement as an assemblage that springs up in one space-time and disappears again just to move its activities to another site. Becoming activist here involves forming alliances between hitherto dispersed groups and people. Learning how to

organise protests happened in informal small groups over a cup of coffee, rather than within centralised organisations. Similar to what Watt (2016) described, the more experienced political activists from the BIG TREE group can serve as important catalysts, drawing new people into action and helping to find ways of making concerns public. Through intense debates on virtual platforms like Facebook, FOR realised that:

> *Another thing why we thought we had to start [our protest campaign] was that at that time a lot of people at Facebook were writing about it [the proposed promenade] and[...] a lot of people [did] not understand the problems about it. So they [the people] thought it was a good plan of the government! So, in a way for non-design people it is hard to understand all the problems [connected with the proposal]. So that is why we thought that at least we need to do a study and try to make it simpler for the general people to understand the issues [involved].*
>
> *[FOR Spokesperson, November 2015, Bangkok]*

As the above quote suggests, the desire for more public space along the river was in fact a desire shared by many Bangkokians. Yet, as the spokesperson points out, entangled, complicated issues such as housing rights and the river's fragile ecology were little known and discussed by the public at first. The remark also signals a first attempt to differentiate between people who are "in the know" of the sensitive issues involved in the project and those "non-design people" for whom it was harder to anticipate the full effects of the proposed plans.

FOR then started to gather expertise by inviting hydrologists, engineers, water experts and social scientists for teach-ins, sessions where experts gave short presentations on various aspects of the proposed design:

> *Actually we don't have all the knowledge! [Laughs] But we got some support from [experts]. We tried to get the information from the related fields. Like [from] experts [such as] hydrologists and river ecologists and engineers. And they supported us. We invited them for*

lectures to understand the situation better. [...] And then we transformed that into easy graphics to better [communicate] the situation.

[FOR Spokesperson, November 2015, Bangkok]

In particular, water experts raised their awareness towards the impact of the highway-like structure on the already endangered ecology of the river. Learning more about the specific local conditions involved a deeper acknowledgement of the consequences of the junta's plans for non-humans, like aquatic species and plans. The needed concrete columns to support the road, for example, are predicted to further obstruct the flow of the water, gathering rubbish and increasing populations of water hyacinths on the water's surface. Moreover:

Our Chao Phraya is so near to the sea! We are affected by the tides of the sea. [...] We talked to the engineers [and they said] that it [the promenade] will also affect the current of the water coming down. It [the river] will be narrower and [that] will make the current stronger and faster such that it will destroy the river bank even faster.

[FOR Spokesperson, November 2015, Bangkok]

Furthermore, water hyacinths already cause problems in Bangkok's waterways as they multiply quickly, thus blocking the flow of the water with their thick roots (Chunkao, Nimpee & Duangmal, 2012). The light and oxygen needed by fish and amphibious animals living in the river would increasingly be blocked by the large road installations, altering the water's chemical composition with negative repercussions for non-human river inhabitants. FOR's dissent increasingly began to span socio-ecological trajectories involving considerations for multi-species' wellbeing.

The UNEP country officer I met strongly supported the ecological concerns expressed by FOR:

That [referring to the river promenade] is very bad! They are blocking the waterway again! [...] If you look

at the Chao Phraya River - the river bank has already been invaded by so many constructions. And along the river bank a wall was [already] made [...] and it has already blocked the water way permanently. [...] If you narrow the [stream] again and imagine a flood coming from the north, and if the dam is bursting, what will happen? It will demolish everything along the river bank!

[UNEP Country Officer, February 2016, Bangkok]

Learning about the diverse issues involved in the reconstruction plans of the government meant acknowledging the interconnectedness of the river ecology, as well as its entanglement with the heterogeneous socio-economic elements that form the complexity of life at the Chao Phraya river front. The intense phase of learning and assembling different types of knowledge about life by the river involved: "... a series of translations [....] with the enrolment of heterogeneous materials, including paper, PCs, cameras, films, developing materials, printers, maps, questionnaires, local people, resources, and so on" (McFarlane, 2011, p. 79).

Anthropologist Ingold has been credited with perceiving learning as a kind of "wayfinding" (McFarlane, 2011 a, p. 1) Here this wayfinding amounts to a situation in which the landscape architects were beginning to "feel their way" through a world that is itself in motion, continually coming into being through the interrelations of humans/non-humans (McFarlane, 2011 a, p. 2). The translations involved a degree of simplification and unification of issues, as it became obvious in the groups' effort to develop info-graphics for communicating the issue with a wider public. In this transformative process, FOR members themselves became transformed and progressively started to assume a new role, becoming activists. Despite reaching out and drawing in diverse sets of knowledge, learning within social movements is not automatically without hierarchies, as McFarlane (2011 a) has warned. The labour needed within social movements consists in "gathering, coherence, dispersion" (McFarlane, 2009, p. 562). Expertise is gathered, divergent ideas put into some form of coherence before being dispersed to a wider audience. Within the aspect of "coherence", however, may lie the risk of introducing hierarchies. Implicit ideas about leadership (in particular within learning

situations) can reveal arborescent elements within the organisation of social dissent. In the interview with FOR, I was told:

> *So what I think I forgot to say is that we want to help educate people by mak[ing]... them understand that these plans [for the promenade made by the government] are not fixed.*
>
> *[FOR Spokesperson, November 2015, Bangkok]*

Such statements may reveal that while FOR got increasingly comfortable in their role of "becoming activists" through their diverse knowledge-creating activities, an implicit hierarchy among the different actors involved emerged. Rather than rejecting the idea that the social struggle against the river promenade can be seen as an assemblage, Wood et al. (2013) show how perceiving social protest groups both as arborescent and as assemblage can only be thought of as ideal types. Similarly, Deleuze and Guattari themselves have made it clear that the binaries they propose throughout their work always find their realisation in hybrids, rather than pure states (e.g. the smooth and striated spaces always play across each other, always leading to hybrid forms). After gathering the diverse arguments that formed FOR's and BIG TREE's ground for resistance, I was told that they decided to become active:

> *You can push them [the junta]. You cannot just fight with them. But they allow pushing.*
>
> *[BIG TREE activist male, February 2016, Bangkok]*

6.3.3 PUSHING THE JUNTA - ASSEMBLING THE WAR MACHINE

This section discusses how social media and info-graphics can be thought of as nomadic war machines within the struggle employed to augment the activists' capacity to act. These war machines proved particularly affective because they used aesthetics and humour to raise attention towards the plight of local communities threatened with displacement. As such, the notion of identity looms large within the tactics of politicising the junta's project, revealing a further ambiguity of the activist assemblage.

As I learned from the couple that founded BIG TREE, the internet became an important weapon to push the government:

> *Practically, none of us are real environmentalists. I mean we are not trained in environment[al science]... but we are pretty good in using social media! In using creative design and messages and "bite-sized" information.[...]. [We] have an appeal to younger, creative and more forward looking people.[...] And so I guess social media has become very important at least for Thailand and especially for Bangkok. It is a citizen-based stream of information. And even, you know, the "Bangkok Post" has a section now that sums up topics that people talk about in social media. So that is how mainstream media got to know about Friends of the River and also through television...*
>
> *[BIG TREE female activist, February 2016, Bangkok]*

Rousellin (2016), in reviewing the role of social media in the so-called "colour revolutions" in Georgia, Ukraine, Uzbekistan and Kyrgyzstan, argues for the importance of social media in contemporary social struggles. He qualifies the role of social media by drawing attention to its potential to create territories of engagement. Rhizomic struggles might be able to create larger, potentially more inclusive territories for engagement even though the diversity of online supporters might not be able to sustain a particular "territorial depth" (Rousellin, 2016). Illustrating this claim by a case study on the Tunisian revolution, Rousellin argues that whilst social media contributed to the widespread dissent against the Ben Ali regime, this form of creating inclusive territories of dissent could not generate enough depth (here his notion of "depth" resembles Wood et al.'s argument about arborescent social protests that are characterised by a degree of coherence and representative power) to contribute to the development of a new political order. In the case at hand, it seems that the online presence of FOR and BIG TREE did not aim to reach out to radically dispersed populations, or to create a huge international support base. Rather, it seems that the struggle over the Chao Phraya River was mostly carried out by Bangkokians. The related *change.org* petition, for example, was only written in Thai. Furthermore, the conscious reliance on

their own strength in using social media resembles Arenas (2014, p. 441)'s insights into how social assemblages tend to thrive on endogenous skills and resources to build synergies between the individual protesters or groups. Moreover, organising dissent within a well-connected assemblage enabled the activists to tap into wide socio-technical online assemblages to disseminate their worries about the yet-to-come promenade along the river.

Reaching out on social media to a wider Bangkokian public can also qualify as a way of translocalising the struggle, if we perceive translocality as a relational feature of space and do not reduce it to notions of spatial extensiveness. By foregrounding the cultural and historical importance of the river and water-based living in Bangkok, the group could easily gather the attention of a city-wide audience. Within weeks, they had gathered a significant amount of followers. Moreover, drawing support from famous Thai architect Sumet Jumsai na Ayudhya, who submitted his own re-development proposal inspired by traditional Thai water-based architecture stressed the national importance of the river's re-design (Rujivanarom, 3rd June 2015). As such, the struggle over the waterfront helped to revive traditional water-based lifestyles. The protest could attach itself to historical narratives of living on floating or stilted houses in harmony with the rise and fall of the river's current.

While initially it was mainly made up of other architects and landscape designers, the group of supporters grew quickly in diversity:

> *I think our support comes from wider groups than that of designers and architects... [...] it started to grow beyond that. [Another] key supporter is the NGO called BIG TREE [...]. They are very active in protecting greeneries for the Bangkok people. And then the Makasan group. [...] Makasan is a campaign to save parks in the inner part of Bangkok.*
>
> *[FOR Spokesperson, November 2015, Bangkok]*

The websites here served as an influential as well as far-reaching coordination tool,   drawing people into the NGO's sphere who were hitherto unaware of the government plans. Through the forging of these virtual connections

between already existing environmental NGOs, *Friends of the River,* architects and politically minded people, new ways of expressing dissent were made possible.

Image 6.4. Image from FOR Brochure, given to me during interview. Own image.

Art and visualisations make a re-appearance here in their potential to create lines of flight (see chapter 5). Images like 6.4 became important weapons both within the activists' online and off-line activities.

Equipped with the professional skills of designers and architects, the "yet-to-come" promenade with its potentially disruptive effects was sketched and widely circulated in social media outlets. Such images can be seen as: "[...] paths along which things change or become transformed into something else" (Patton, 2010, p. 117). Thinking about these images as a nomadic war machine renders them as powerful tools with which the activists augmented their capacity to affect the public. As Groves mentioned: "Anticipation is dependent on capacities of bodies and of socio-technical apparatuses, distributed throughout the environments of social action" (Groves, 2016, p.1). Image 6.4 draws on the uncertainty of a climate change-impacted future by puzzling over how high the dam would actually need to be to permanently protect Bangkokians from rising water levels. Rather than following the junta's enthusiasm for supposedly permanent structures, the activists seem to

confirm calls for exploring ways of revitalising the *khlong* infrastructure in a manner that is respectful to local water-based lifestyles and heritage.

Noparatnaraporn and King envision that the role for designers within the quest to revitalise the urban waterways lies precisely in their ability to forge new connections between the old and the new, the backsides and front matters of the city: "This [...] is ultimately the task of the designers - to show ways whereby 'the back' [waterways] can re-invade 'the front', the water world restored to life, and that profound Buddhist reverence for nature re-connected to ecological realities. The khlongs and their transformation both physically and in discourse, we would argue, hold a key [...]" (Noparatnaraporn & King, 2007, p. 80). Crucially what seems at stake for the authors is not only a re-examination of the role of the urban waterscape for ecological urban planning, but also the significant socio-cultural and religious motifs that underpin past fluvial lifestyles in Bangkok. Together, protecting the waterscape seems thus driven by a combination of concerns for traditional lifestyles, cultural norms, aesthetic preferences and ecological considerations. FOR ran small workshops with local riverfront communities to learn about their hopes and visions for their future by the Chao Phraya, realising that another negative outcome of the promenade would be the displacement of local longstanding communities:

> *You know that there are some houses that are built a bit over the riverfront? So the government is trying to push these out. Because they are called "informal housing". So they know that these people are not legal. And the government uses this project to clear them out as well.*
>
> *[FOR Spokesperson, November 2015, Bangkok]*

The proposed cycling path and promenade thus directly competes with housing spaces of the urban poor. In a newspaper article on the topic, a local resident was quoted as saying:

> *"It's like you move the fish out of the river to live on the shore," Sophee said to describe the impact on her neighbors once they can no longer catch fish to sell. Like all of the riverside residents, Sophee, 59, used to*

oppose the regime's 14-billion baht mega project. Her home in the Mittakam 1 community near the Krung Thon Bridge is among 309 households in 12 communities which will be demolished and replaced by a concrete promenade" (Mokkhasen, 17th January 2017).

Human displacement and the loss of traditional lifestyles emerged as a powerful narrative to capture people's attention. This concern over traditional communities and Thai cultural heritage also circulated through the statement made by the UNEP country officer who passionately told me:

> *[…] If you look at the history of Bangkok, this is my personal opinion, we are not a city of bicycles. We are a city of boats! We are not like Hanoi or Beijing where people use bicycles like crazy. So now with the new trend of whatever like "slow life" or "whatever life" the new generation would like to promote bicycles. That is fine. But if you see beyond your own desire, it is impossible to bike in Bangkok! Even though you have some bicycle lanes. (laughs) Like first at all, it is too hot. In Beijing and Hanoi, fine! But you also would not see bicycles in Saigon.*
>
> *[UNEP Country Officer, February 2016, Bangkok]*

Evoking the problematic of a "dam-front lifestyle" and the loss of urban heritage seems to strike a chord with people who see Bangkok's identity as a water-based city threatened by the promenade. The above quote crucially combines historical developments and cultural identity with a history of mobility and Bangkok's socio-hydro relations. The environment emerges as the explanatory factor in this statement. Difference between typical Bangkokian modes of water-based transport are here compared with regional cities like Hanoi or Beijing which serve to signify a different type of urban historical space, marked by a different type of urban mobility. Projecting these past experiences onto a climate change-impacted future reveals a potential conflict between a longing for traditional water based lifestyles, corresponding to local traditions and climate, and the desire for a biking promenade. Within the quote it seems that the political concern expressed arises precisely from the clash between personal desires and more molar

formations, such as cultural or environmental contexts, which seem to contradict desires.

Connected to this question of urban identity as a water-based city seems the use of infographics as a particularly appropriate type of nomadic Thai weapon:

These guys [referring to a group of supporters] are writers and cyclists and so they manage to present environmental issues in a fun and "chic" kind of way.

[BIG TREE female activist, February 2016, Bangkok]

Visualising the negative impacts of the plans in a "not-too serious" way was essential to spread the concern over the waterfront. The above image shows a provocative photo montage that laments the loss of the riverfront lifestyle, which was turned into a dam-front lifestyle through the new, proposed embankment. Within the molar context of Thai culture, "humour" is a strong signifier that hovers over the nomadic war machine:

But [we need to] try to have a campaign that does not seem too serious... Because you know that Thai people don't like serious and being loaded with information, academic and technical information. So you need to use info-graphics ...

[BIG TREE male activist, February 2016, Bangkok]

Put differently, the nomadic weapon of choice (infographics and social media) are not free of more tree-like qualities that consciously draw on (slightly essentialising) notions of Bangkokians' identity as a boat (not bike)-based city and privilege being "not too serious" about the presentation of confrontational critique. Throughout FOR activities, aesthetics played an important political role. Arts and planning skills are seen as a resource capable of confronting the grey engineering dreams of the military regime. The activists from BIG TREE and FOR made it clear that the very materiality of the project was both socially and ecologically problematic. Repeatedly, it was mentioned in the interview that the proposed public space would just "look

like a highway": Grey, ugly and made from concrete; obstructing the view over the river and further impeding the connection between communities and the river.

Connecting the ecological concerns about engineered flood protections with socio-asethetic concerns seems to mirror Saldanha's call for post-human aesthetics: "An aesthetics for post-human worlds has the didactic task of alerting other publics than the geographical to the fact art and discourse do not float in a realm separate from microbes, photosynthesis, toxins, the water cycle and climate change" (Saldanha, 2012, p. 276). By raising concerns about lifestyles in connection to raising waters and material restructurings of urban environments, FOR highlights the interdependency of spheres of existence. Importantly, it is the complex interconnectedness of design-materiality-social relations-ecology that seems to make resistance towards the junta's plan so powerful. The enmeshment of human-non human concerns releases an affect that has multiple ways of touching people (the power to be affected in a truly post-human sense): "We need [...] explanation [on] how the aesthetic is an achievement across adversity requiring the difficult coming-together of affect and reason" (Saldanha, 2012, p. 277, original emphasise). Through the use of easy-to-grasp, aesthetic provocations, such a combination of affect and reason is drawn on by FOR. After carving out virtual territories on *facebook.com* and *change.org* to disseminate their concerns, FOR decided to take their nomadic war machine offline and create smooth space in physical locations across the city.

6.3.4 CREATING SMOOTH SPACES
This section analyses two direct actions of the activist assemblage in which they contributed to the creation of smooth spaces in the city. Within the examples, one can see the potential emergence of "open futures".

The BACC Exhibition

Having gathered support from social media, activists and Facebook supporters, FOR launched a second phase of protests by starting to call for alternative proposals for the riverfront. Several design and urban planning courses at different universities across the city participated in this call, and groups of students went to the Chao Phraya River, studying the possibility for alternative promenade designs. Emphasising the aspect of knowledge creation

and teaching, students developed careful studies of the local compositions of communities along the river and developed models for redeveloping the riverfront. The final event of this project involved an exhibition of these designs.

Image 6.5. BACC exhibition.

The student projects were shown in an exhibition in the ultra-modern Bangkok Arts and Culture Centre (BACC)[9]. The BACC is an important space for the art community in Bangkok, featuring changing exhibitions by both national and international contemporary artists. While the top floor of the building is dedicated to formal exhibitions, the three lower stories are composed of small NGO offices, cafés, a bike store, a fair trade shop, a small library, and space for smaller art exhibitions and shows put on by NGOs or cultural groups. The lower floors of the BACC offer an important space to create encounters between activists and the wider public. Rather than a pre-given node in a network, the BACC is a space that requires local contacts, labour and aesthetic practices to function as a temporary smooth space in which alternative ideas, unconventional exhibitions and political topics can be addressed. As such, the BACC served as a hub where alternative futures for the

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[9] For more information about the centre see their webpage: http://en.bacc.or.th/.

river development could be both presented and discussed. The prestigious space of the art museum offers temporary territories in which critical voices can be made audible. The ambivalence of this place is at the heart of the political tactics of the activists I met. While embedded within a highly respected art museum, minor voices of dissent and scepticism were able to "push" through their concerns via the unsuspicious language of design and planning. Being situated in the modern city centre, surrounded by malls and connected to the BTS, the BACC attracts foreigners and locals alike. As it is close to Chulalongkorn University, students and teachers pass by it and intermingle with tourists and expatriates who come for art, the library and a cup of fashionable cold-drip coffee. The BACC is hence a valid example for the interplay of smooth and striated space, precisely because its function within the city is frequently assembled and re-assembled[10]. Smooth and striated are linked, play across each other and importantly never exist a priori but need to be constantly assembled and held together.

Image 6.6. Picture taken at BACC exhibition. Own image.

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[10] A few weeks later I was caught up in its function as a striated space linked to the official position of the state when it featured a large exhibition in honour of the 60th birthday of the Thai Princess Maha Chakkri Sirinthon. The exhibition stayed well within the state-orchestrated tradition of celebrating the royals' many achievements, foreclosing the slightest possibility of a critical appraisal of the role of the monarchy in Thai society.

When I visited the exhibitions, I realised that the student designs not only formed a part of the "nomadic war machine" but also served as "coordination devices" (McFarlane, 2011 a, p.71) in so far as they brought together the diverse issues at stake within the redevelopment of the waterfront. The students' proposal made visible the interrelated challenges for local ecology and people, which the junta's proposal hitherto had ignored. Small groups of people stood in front of these proposals, discussing their feasibility and aesthetics. Through these material artefacts, tourists and expats, students and teachers were drawn into conversations and debates about the river. For a few days, this exhibition created a time-space in which BACC visitors were encouraged to examine a field of possibilities of alternative river futures.

Loy Krathong

Reflections on the Loy Krathong activities of the FOR group in November 2015 serve as the second example of how the activists engaged in the creation of temporary smooth spaces in the city.

Image 6.7 Loy Krathong floating objects for merit making. Own image.

Image 6.8 on the right: FOR activity at the river during Loy Krathong festival. Own image.

Loy Krathong is an important Buddhist celebration in which people thank the goddess of the rivers by releasing little floating devices with candles and beautiful flower decorations to both praise the goddess and ask her forgiveness for past environmental wrongdoings (Noparatnaraporn & King, 2007, p. 74). Loy Krathong remains a peaceful and family-friendly urban spectacle that brings hundreds of Bangkokians to the urban waterscape (ibid.).

At the end of my interview at the FOR office, we discussed whether I could participate in the Loy Krathong activities. I want to reproduce this discussion at some length, as it reveals another tree-like element hidden within the FOR struggles:

> *Interviewer: Could I maybe join you at the Loy Krathong activity?*

> *Spokesperson: Of course! Because actually we need foreigners who can speak up for us. What ID are you holding?*
>
> *Interviewer: I am a German citizen actually.*
>
> *Spokesperson: Because on that day there will be many tourists.... and we might do a little video clip [with them]... because our government likes to listen to foreigners!*
>
> *Interviewer: Really? Why is that?*
>
> *Spokesperson: Because the whole thing they are building here is for the tourists. For them! They think it will help tourism. But if... oh if foreigners say "this is not helping at all" and "I am not coming here anymore"... something like that, like if tourists would say "we don't come for the lane but for the streets behind it" [it would help].*
>
> *[FOR Spokesperson, November 2015, Bangkok]*

Drawing the figure of the tourist into the struggle is a practice attested to before in the long-running conflict between the so-called "yellow vs. red shirt movement" (Dovey & King, 2013). Here, "red shirts" occupied a central square in Thailand on which different routes of tourist and expatriate flows met, as the space was the junction between the sky train and major highways. The "red shirts" carried banners with English slogans in which they welcomed tourists and explained that they were peaceful protesters longing for democracy. Tourists' attention was seen as a degree of protection, and secured much wider media attention. As such, the "red shirts" inserted their demands into the flow of *farang* and local bodies through the city (Dovey & King, 2013, p. 1035). As the above interview dialogue suggests, the FOR tactic pushed this a bit further, by identifying tourists as privileged mobile bodies and actively seeking them as possible spokespersons for their cause.

The religious festivity for redemption and contemplation about human-hydro relations was hence used to stage an encounter among activists, local communities, tourists and the wider city population to openly exposing the problems of the junta's promenade plan. These moments of encounter are

crucial in momentarily punctuating the workings of power, potentially contributing to their subversion (Watt, 2016, p. 301). Hardt, following Spinoza, has pointed out that "being affected by others, by external forces, is not a weakness but a strength, a power" (Hardt, 2015, p. 215). Similarly, for Braidotti, the power to be affected entails a "more-than-human" ethic that acknowledges our entangled relations of really being in the world. As such, FOR made possible a space in which people were exposed to the concerns over the river's future. Connecting themselves and their action to the joyful event of Loy Krathong arguably augmented FOR's capacity to reach people as "Joy, for instance, is the increase of our power to think and act" (Hardt, 2015, p. 219). Creating open urban futures might thus work particularly well when positive flows are enhanced, rather than reactive ones. Joyfulness or "fun" within social activism seems necessary to encourage wider public engagement with political problems.

Friends of the River thus set up an open air exhibition of the students' design proposals at a public park by the riverfront. When I arrived in the early afternoon at the park, people were already gathered along a line of stalls selling floating devices, food and drinks. FOR had prepared their own cardboard boxes with paper candles and incense stick decorations and invited people visiting the exhibition to write down their ideas and dreams for the future of the river. The power of the water's stream was used to let the small objects float and be widely circulated. Slowly, a new type of collective war machine emerged. Rather than creating a smooth space for deliberations like in the BACC exhibition, the people attending the Loy Krathong activities were drawn into the web of protest more actively. By releasing the cardboard boxes to the river, a novel composition of political claims and urban materiality emerged. The creation of a collective effort of de-territorialising the forces of striated space was precisely enabled through the subversive act of releasing floating devices that did not appeal to a goddess for personal forgiveness, but expressed a collective, yet radically heterogeneous, set of claims and wishes. As such, the shared activity served as a powerful reminder that within times of military rule, the murmurs of open futures can take many (material) forms. Thinking about how some of the floating devices were maybe found and read by people celebrating Loy Krathong further down the river further amplifies the potentiality of creating lines of flight by setting off material objects into

uncertain and unchartered circulations. The devices thus had the potential of carrying on the project of fostering imaginations of open futures to unpredictable places along the river.

Image 6.9. Loy Krathong activity to protest the 14 KM River Promenade. Own image.

6.4 KHLONG LAT PRAO AND KHLONG BANG SUE: BETWEEN CLIMATE CHANGE AND DEVELOPMENT

This section compares the struggles that emerged along the *Khlong Lat Prao* and *Khlong Bang Sue* community to the work of the previously analysed Chao Phraya activist assemblage.

6.4.1 MAKING SENSE OF INFORMAL SPACE

This subsection develops a deleuzoguattarian analysis of the space inhabited by the *khlong* communities to provide the context in which the local struggles emerged.

While I was drawn into the conflicts over the Chao Phraya River promenade through various channels (the topic was brought up within interviews, I read about it in the news, friends mentioned it), gaining access to the social struggles that played out along the *Khlong Lat Prao* and *Khlong Bang*

Sue was much more coincidental and hinged upon two key "gate keepers". I was only drawn into the *khlong* communities' plight because an interview partner referred me to two engaged academics (Pongporn and Yangyong) who introduced me to these hidden sites of Bangkok. I return here to Auntie Lek and her *khlong* community in Bangkok's northern district, Huay Kwang, as well as to the connected Khlong Bang Sue community. A few kilometres away from the Chao Phraya River, the temples, palaces and tourists, runs one of the few remaining *khlong* networks used for flood water drainage and (informal) local transport. After the 2011 flood, the usefulness of the remaining *khlong* infrastructure in this area for flood protection was acknowledged and the government decided to widen the existing *khlongs* to speed up flood relief during monsoon seasons. The same day that General Chan-o-Cha announced his plans for the Chao Phraya River promenade, he also released his plans concerning the northern *khlongs*:

> "Another project that has been initiated is the Lat Phrao Canal. The improvement of Lat Phrao Canal is conducted differently from the Chao Phraya River project. This project will help drain water. The drain will have a total distance of 23 kilometers and about 20 – 38 meters in width. Some people living along this drainage maybe affected, we are looking for ways to resolve this problem. Again, we have set up a definite timeframe for construction of 4 years commencing in 2015 and completing in 2019. This is another initiative; however, if we succeed with improving the Lat Phrao Canal, we will be able to drain water from the east of Bangkok, into tunnels allowing Bangkok to be flood free. Lat Phrao Canal will become cleaner, clearer and have areas to collect wastes. This project is in process. Within 4 years this project will be completed" (General Chan-o-cha, 15th May 2015).

On my first trip to the *khlong* communities during the 2015 monsoon season, I was surprised about the "rural" feel to these small strips along the water. Tucked away between skyscrapers and shopping malls in the busy district of Huay Kwang, the two *khlongs* run slowly towards the Chao Phraya River. The people living in small stilted houses on the waterfront seem to echo the Bangkok of a long-gone past, when wood was the dominant building material, social life unfolded on the piers along the waterfronts, and mobility was organised by boats (see chapter 4).

Image 6.10. Traditional plough, preserved at Khlong Lat Prao Community Centre. Own image.
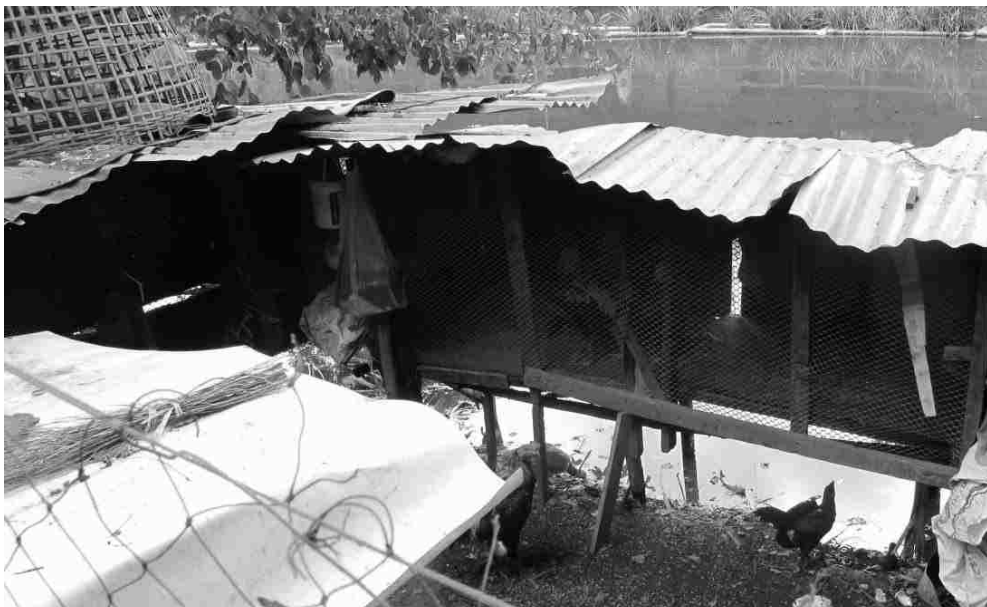
Image 6.11. Stilted chicken shack. Klong Bang Sue community. Own image.

When I met Auntie Lek for an interview, she picked up Stamp, my interpreter, and me from the metro station, leading us through the labyrinth of small streets and backyards along the canal. Here Deleuze and Guattari's remark that the analytically distinct concepts of smooth and striated space only appear as *de facto* mixed space seems true (Dovey, 2010). This space is home to lizards and fish, birds and stray dogs, cats and roosters. One home even kept a tamed monkey as a pet in its backyard. On the narrow strip of 20-meter width, a semi-rural/semi-urban "other" emerges. Though a lifestyle far from untouched by the terrestrial development of the city, it still involves

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elements of a fluvial past and – at least if one sits down with the older people from the community like Auntie Lek – a nostalgia for a life among paddy fields and fruit orchards. Auntie Lek cultivates plants in little pots in her backyard. She opens her garden for a pack of stray dogs and cats, lizards crawling along the waterfront. A cluttered, crowded, "more-than-human" community with zig-zagging streets too narrow for a car but still well-travelled by quirking motorbikes. Following King & Dovey's (2013) observations on informal space in Bangkok, Auntie Lek's community is not only a bricolage of recycled building materials, DIY concrete roads, animal dwellings, human housing and community centres but also a temporal *bricolage* where time appears as non-synchronous but rather forms a time-space where past-present-future intermingle and co-exist (King & Dovey, 2013, p. 1023).

Image 6.12. Entrance to Khlong Bang Sue Community. Huay Kwang, Bangkok. Own image.

"Yet spatial structures are always a mix of tree-like and rhizomatic", as Dovey (2010, p.20) argues. And sure enough, beneath this romantic description of a lively urban wilderness, lurks the reality of social hardship, stigma and socio-political and economic marginalisation. Most families in the community live from 200 or 300 Thai Baht per day (approx. 6 to 8 euros). The development of the city has turned the once-upon-a-time farmer community into an urban poor neighbourhood, as their subsistence lifestyle has become harder and harder to maintain due to the loss of *khlong* water-fed paddy fields. When King Rama IX Road was built in the 1980s and the Thai economy saw a spectacular boom (up till the 1997 Asian Financial Crisis), many urban

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poor communities were resettled from Huay Kwang and other newly developed districts to the city fringes (Viratkapan & Perera, 2006; Leeruttanawisut & Yap, 2015). With the road, Bangkok's characteristic street hierarchy was brought to Huay Kwang, where a *thanon* (main street) paves the way for development, with smaller *soi* (side street) branching off and narrow *trok* (pedestrian street or lane) forming the bottom of the spatial hierarchy (see Dovey & Polakit, 2010, p. 170). While Auntie Lek's community managed to stay put and hold on to the narrow strip of unoccupied land by the *Khlong Lat Prao and Khlong Bang Sue* during this phase, the development of the district did not benefit the community much. Today, drug abuse, poverty and precarious jobs in massage parlours or on construction sites and petty retail are common within the community, I was told by Auntie Lek, and Pongporn said:

> *the canal and [...] community [...] is kind of very slummy... you know. drugs and poverty and things like that.*
>
> *(Pongporn, January 2016, Bangkok).*

It is within the interplay of urban hardship and vivid, traditional community lifestyle which the state seeks to intervene.

6.4.2 INFORMAL IDENTITIES
While FOR and BIG TREE activists could successfully use the notions of heritage, local identities and water-based lifestyles along the Chao Phraya River to raise attention towards the hardship of displacement and expose the violence of the junta in pushing through their plans, capitalising on their local water-based identity was severely limited in the *khlong* communities.

Following our guide through the *paktrok*, the node point between the large *thanon* and the small *trok* (Dovey &Polakit, 2010, p.171) where little stalls and a group of motorcycle taxis mark the boundaries between the formal *thanon* and informal *trok*, Auntie Lek laments the financialisation of her everyday life; even for clean water they now need to pay, as the *khlong* water is no longer fit for consumption. Indeed. it was the increasing pollution of the *khlong* water that first brought the city's government (the authorities of the local BMA municipality) into the community. Both national government and

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BMA have started to intervene in the daily life of the community. In 2000. the Thai government sought to solve the challenge of urban poor housing in the city and supported the foundation of the Community Organisation Development Initiative (CODI), which since then has worked on improving the lives of Thailand's urban poor by facilitating workshops on community savings to bring informal squatter communities into a position where they can take up loans to purchase land (Archer, 2012; Usavagovitwong & Posriprasert, 2006).

In the Bang Sue and Lat Prao communities, CODI has regularly organised garbage days to clean the *khlongs* and installed rubbish bins for waste collection to improve the health of community dwellers and, crucially, to reduce incidents of flooding due to clogged *khlongs*. Yet, only recently, General Chan-o-cha said in his weekly address on the quality of *khlong* water in Bangkok:

> *Most of the trash accumulation is in canals whose banks are also*
> *populated. The dwellers would dump waste into the canal, even*
> *household trash. The trash then flows through the canal until it meets*
> *the drain joining the canal with the main sewer pipe. Consequently,*
> *there is flooding. (Chan-o-cha, Official Statement, 15th August 2016).*

Khlong communities across the city have long been blamed for the deteriorating quality of the waterways. The reflex of blaming the poor for environmental pollution is neither new nor a specific Bangkokian discourse (Storey, 2012). Questions over the environment and the condition of the waterways have put Auntie Lek and her community into a nomad position, linking their lives to the state in an ambivalent and often antagonistic way. Climate change seems to exacerbate this position, in so far as the government now has another legitimisation to push for a clearing of the canals. While academic debates on planned relocation in the context of climate change have particularly focused on the fate of populations living on small island states or within coastal villages (Johnson, 2012; Edwards, 2013; Gromilova, 2014; Islam et al., 2014; Gebauer & Doevenspeck, 2015), the urban seems a paramount site where these conflicts are likely to play out as well. Post-colonial scholars have alerted the public to the fact that discussions about relocating entire populations under possible "climate refugee" schemes might not serve the interest of local populations but that of countries of the Global North reluctant to invest in costly mitigation schemes. Here resettlement is seen as a form of

sacrifice, possibly re-evoking wounds of past resettlements endured for national development schemes or colonial projects (Farbotko 2005, 2010; Farbotko & Lazrus, 2012; McNamara & Gibson, 2009; Millar, 2007). The displacement of the communities along Khlong Bang Sue and Lat Prao seems to echo thorny questions about whose homes will be saved in a climate change-impacted world. While it may serve the larger city (and in particular the more prosperous parts of the urban population) to widen Huay Kwang's *khlongs*, it adversely puts a small albeit longstanding local community at risk. The right to the city and to stay put in the times of climate change are hence pivotal political questions in Bangkok.

Trapped in a precarious legal position in which hardly any of the occupants hold official land titles, the government's obligations towards resettlement and compensations are limited. The challenge of legal titles and land rights has been discussed in the context of urban resettlement in Bangkok before (Viratkapan & Perera, 2006; Leeruttanawisut & Yap, 2015). While compensation is an important principle for resettlement, de facto absences of documents and legal possessions of land increase the vulnerability of the urban poor within climate change-related resettlement schemes. Given the high number of urban informal settlements across the globe, different mechanisms of compensation must be found to avoid that "planned relocation" turn into brutal eviction.

Yet, rather than being pushed into a clear opposition against governmental interventions in her community, Auntie Lek acknowledges that BMA, CODI, and the royal institutions regularly send welcome support to the community. The local kindergarten is partially financed through the government and furthermore supported with money from the Royal Projects[11]. The community receives a monthly sum of money to finance small scale projects to enhance the infrastructure, services or safety of the community. The community radio and speakers were financed through these measures and are used to inform people about service provisions and weather events like the 2011 flood. She also shows us the small community centre in which doctors give out free medical care in sporadic intervals. Children can

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[11] The Royal Projects were initiated by late King Rama IXth during the 1970s. They aim at improving and developing different aspects of Thai society, environment and infrastructure. See: http://www.thaimain.com/eng/monarchy/project.html. For a critical appraisal of the projects see: Handley, 2006.

obtain vaccinations there, and health advice and low cost treatments can be received. But despite the state's role in all these community affairs there remains an awkward feeling of being sacrificed for the city centre's future:

> *We even support the idea of dredging the canal, but we also need them to listen to us and they need to have a solution for us, too! Their idea about the community development is not clear. Maybe their idea is good for the future of the city, but they don't think about us people!*
>
> *[Jumras, January 2016, Bangkok, translated into*
> *English by Stamp]*

6.4.3 NEGOTIATING STRIATED SPACE

The partial collaboration, partial antagonism to the state is also expressed in the measures the community took to fend off the widening of the canal and their own eviction. This section reflects on negotiations between the community and the state representatives of the BMA.

Invited by the professors who introduced me to the community's struggles, Stamp and I attended an official workshop in the Huay Kwang municipality office where the reconstruction of the community was discussed. Auntie Lek and a few other community leaders were invited, attentively listening to a group of university students who presented a study project for revitalising the *khlong.* The presentation was frequently interrupted by academics and government officials with detailed technical and financial questions about the students' suggestions, and it became increasingly clear that their presentation was meant as an academic exercise rather than a profound contribution to the negotiations of how to keep the community in place whilst achieving better flood protection for the city. The students' presentation emphasised solar panels and floating markets as a future for the *khlongs*[12]. But their enthusiasm for developing a sustainable community was crushed by the repeated questions about the economic costs of such measures.

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[12] Their interest in re-viatlising the community's local economy seems to mirror recent research efforts that look into water community development in Thailand and sees water-based tourist attractions (e.g. floating markets) as a way to strengthen communities' economic position (Ratanamaneichat et al. 2013; Luekveerawattana, 2012).

In particular, the local BMA representative expressed doubts on the financial feasibility of the proposal and questioned whether the *khlong* communities could appreciate and understand the students' proposal well enough to ensure success. While FOR plugged into a diverse virtual network and urban public spaces across the city to gather support for their struggle (e.g. by taking the struggle over the future of the Chao Phraya River to the BACC in the heart of Bangkok, into a public park visited by a large number of Bangkokians, and online to Facebook or the *change.org* platform), the strategy used by the *khlong* community leaders would qualify as more "arborescent", as Wood et al. (2013) termed it. Their form of "protest" was primarily based on fixed memberships, hierarchical structures of representation, and negotiations with state institutions rather than strategically seeking translocal spaces to maximise their potential of "pushing" for their demands and augmenting their capacity to affect others (see table 6.1).

Rather than trying to reach out to dispersed allies across the city, the community leaders were forced into a direct engagement with the BMA – forced into what Deleuze and Guattari called the striated space where every figure at the negotiation table had a fixed set of movements, a fixed "capacity" and prescribed role to play (similar to the ascribed roles for each figure in a game of chess) (Deleuze & Guattari, 2013, p. 411). Echoing Dovey and Polakit's observation that "striated space is where identity has become stabilized" (2010, p. 169), the students, the community leaders and professors all seemed to act out a script following their particular roles. Interestingly, Stamp's translations revealed a particular style of negating ideas or requests from the authorities who never directly opposed any plans but sought to delegitimise possible canal futures by questioning the appropriateness of the students' plans and the community's capacity to understand the plans correctly. The notion of the community being too "uneducated" to understand the complex development proposal sits in direct contrast to FOR's strategy of becoming activists through learning. Yet, it seems to distantly echo a certain prejudice against the poor that imagines them to be lacking formal knowledge, thus not being fully in possession of the "facts" to make informed choices about their future (Storey, 2012). Knowledge and power are structurally intertwined in this argument, introducing harsh hierarchies between the have and have-nots of education.

The rhizomic structure of the first social movement discussed entailed specific sets of resources. Its (temporary) success in pausing the government plans and prolonging the planning phase, and the failure of the second social struggle to stay put in their communities thus possibly hinges upon these differentiated resources. The struggles of the informal communities along Khlong Bang Sue and Lat Prao were more limited from the start. The struggles along the *khlongs* were more easily captured by molar formations. Through a blend of personal and professional skills, it was easier for the FOR and BIG TREE activists to reach out to allies across the city. Certainly the socio-economic status of these activists influenced their capacity to affect others.

Yet, speaking of "molar formations" rather than of "class" in the context of their struggle might prove a more adequate conceptualisation, as scholarship on Bangkok has demonstrated how a Western notion of class is complicated in the context of the Thai capital (Mabry, 1977; Ungpakorn, 1995; Vorgn, 2011). This is not to suggest that the economic positioning of a person is irrelevant in a Thai context, far from it; but rather that specific elements mould a notion of social distinction that might exceed a classical understanding of "class". Travel experience, speaking English and thus being able to reach out to not only locally privileged but internationally privileged people (e.g. tourists, expatriates, foreign advisors) here proved crucial in gaining leverage over the junta's wish to build the river promenade. As such, the two types of struggle also differ with respect to their "translocality". When perceiving translocality as an embodiment in so far as people may carry the nodes of connections to other places, people and language communities in themselves, the activists of FOR and BIG TREE could capitalise on their ability to affect people across various places (within the BACC and Loy Krathong activities), while the *khlong* community members seemed to have lacked such spaces. Moreover, the BIG TREE and FOR activists had travelled and moved across countries, cities, and continents before. They embody the potentiality of connecting and translating their own concerns into issues understandable to others. This is a molar formation which hinges on class but which – in its particular Bangkokian modulation – might exceed conventional notions of it.

Thus, the BMA workshop which I attended was radically different from FOR's BACC exhibition, as it was conducted within the striated space of a government building where the spatial arrangement of people around the

table already symbolised the fixed, striated character of the negotiation style. "The term 'striated' captures the etymological links to the Latin: stringere 'to draw tight' [...]" (Dovey, 2010, p. 21). As such, the fight put up by Auntie Lek and her community was drawn in tight into the striated space of government. The next time I met Auntie Lek in January 2016, she showed me a map they were given by the BMA depicting their community and showing the proposed plan for widening the *khlong*.
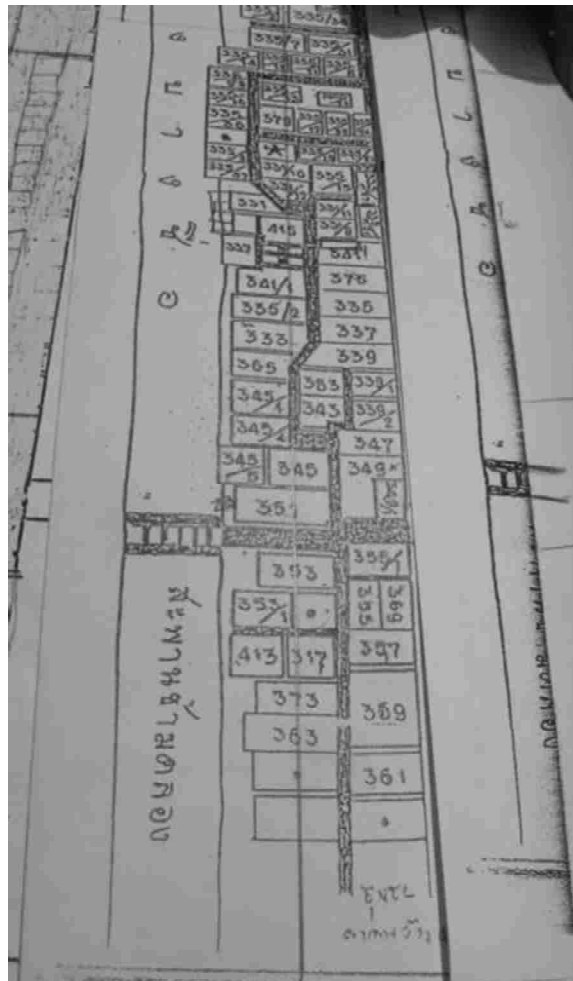
Image 6.13. Map of khlong community showing the line of redeveloping the khlong. Own Image.

Though I was intrigued by the complexity of surveying and mapping a neighbourhood of such informal and unplanned design as Khlong Bang Sue, little could be investigated into how the map was produced. Apparently, the municipality had sent out a group of people to survey the settlement, asking for details about the size of houses and number of occupants. Auntie Lek showed us the survey.

Through the complied statistics gathered in the survey, the map and the thin pencil line on image 6.13 were produced. The line indicates the new water front and where the houses trespassing this line would need to go. The map advanced as the basis for negotiating the future of the *khlong* community. Here, in the visualised spatial design of the community and its proposed future, the map advanced as a coordination device. Again, as a device, it worked quite differently to the student proposals exhibited in the BACC, as here the device was solely employed by the local authorities to communicate their plans. Rather than inviting a debate, the pencil line marks a final decision. As such, the line represents an act of violence that renders dwelling beyond the line unacceptable, illegal and at risk of eviction. As such, the map advanced as a "map of destiny" (Groves, 2016, p. 5), foreclosing the possibility of other futures to materialise along the waterway. Yet, as Jumras, the Khlong Lat Prao community leader, says:

> *We have many problems [due to the resettlement]*
> *because we have lived here for a long time and [...] we*
> *don't want to start a new life. Cause the government*
> *doesn't give us a clear plan! We accept that we are*
> *illegal whilst we live here, but we don't have anywhere*
> *new to live. [...] The government does us not tell where*
> *to resettle to.*
>
> *[Interview with Jumras. Translated by Stamp, January*
> *2016, Bangkok]*
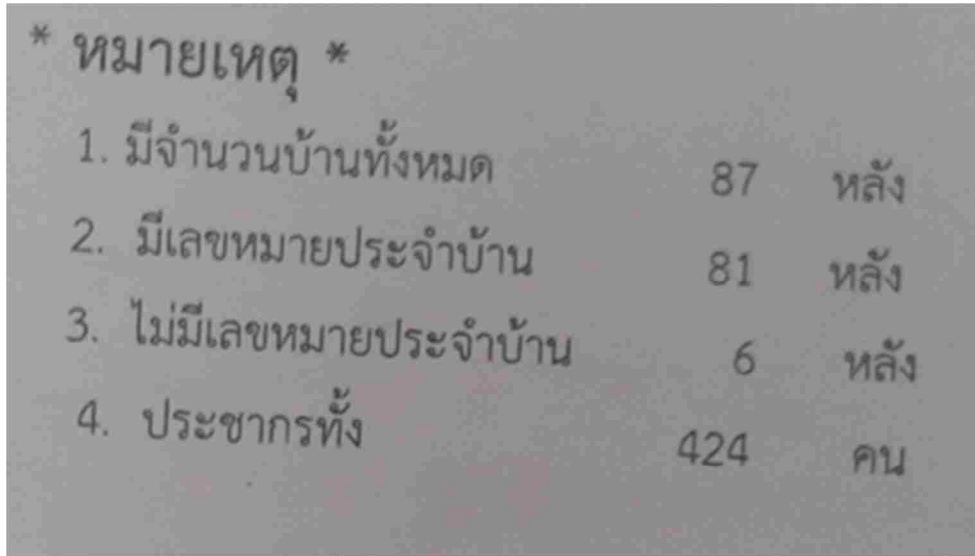
So while the map foreshadows the future of the khlong, it remains silent about the future of many of the residents living in its proximity. For Jumras, the pressing issue lies with the neglect of the government to stretch its planning efforts from the waterfront to the water community. Without knowing where they could go, resettlement here amounts to bleak eviction.

6.4.4 DEMOLITION OF AN URBAN ECOLOGY

When I returned to Bangkok for a week in September 2016, I met Auntie Lek again. This time Fai accompanied me for translations. Upon entering the community, we could see the first signs of the BMA's effort to further striate the space along the *khlong*. At the entrance to the community, the BMA had

pinned the results of a previous counting activity in which the size of the Khlong Bang Sue community was measured:

Image 6.14. Government announcemen at Khlong Bang Sue community. The table translates as: Number of households: 87, houses with house numbers 81, houses without house numbers 6, total population 424. Own image

The counted houses and the publication of the found statistics are a direct product of the striating force of the state. The knowledge is gathered to sort and to govern the population. While the above-mentioned "learning" endeavours of the FOR activists could be seen as ambivalent with regard to the function of knowledge, here the power of the state overrides possible ambivalences. The list resembles Deleuze and Guattari's analysis of state behaviour in order to striate the territory over which it seeks to govern: "The state is sovereignty. But sovereignty only reigns over what it is capable of internalising, of appropriating locally" (Deleuze & Guattari, 2013, p. 419). Later, in *A Thousand Plateaus*, they continue to clarify that one way of striating space to establish sovereignty functions is through counting: "in a striated space-time one counts in order to occupy" (Deleuze & Guattari, 2013, p. 555). Numerical facts about the community are gathered that reduce the edgeland to a small table of numbers, ignoring the ecologies' vibrant, "more-than-human" presences.

When I asked Auntie Lek what had happened while I was gone and what the final outcome was, she told me that the community was able to secure a deal with the BMA. While the original plan of the BMA was to widen the canal from 20 to 35 meters, leaving some space for a road running parallel

to it, the government agreed to only widen the *khlong* to 30 meters and leave some space for houses instead. While the entire setup of the community – the crooked, small alleys, the kindergarten, community health centre, playground, shops and mini gardens – will be demolished, the government allowed for the (re)building of a row of new houses along the canal. The BMA will give a loan of 30 000 baht (approx. 800 Euro) to each family to build these new houses with a uniform design and measurements of 3.7meters. Moreover, the government will demand rent from the community for these houses to turn the families from informal squatters to legal tenants. While through these measures Auntie Lek and her community are able to stay on the land, they will be converted into "proper tenants", which will constrain the meagre incomes of the families even more. Again, she took out a map. This time, white paint was put over the houses along the canal front, and little pencil boxes indicate the row of houses allowed to remain in the community.
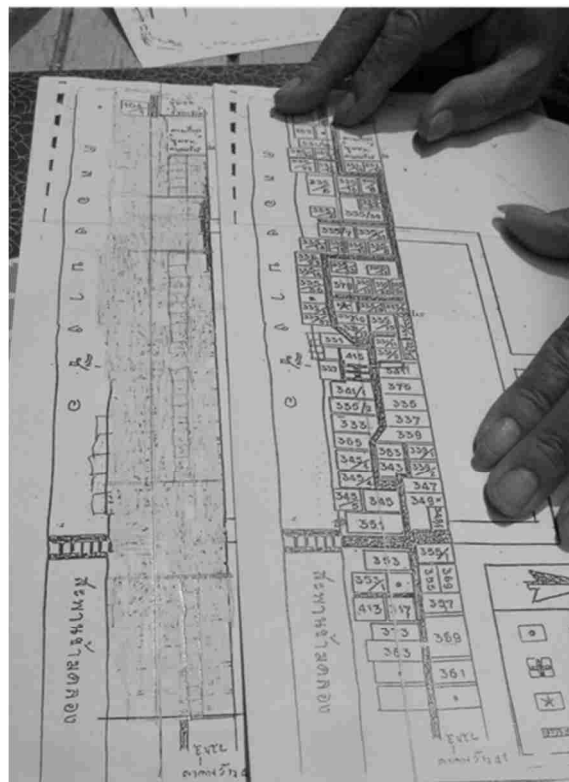

Image 6.15 New community map. Own image.

Image 6.16. Demolition of dwelling spaces along Khlong Lat Prao. August 2016. Own Image.

Whilst Auntie Lek remains committed to staying, people with larger families will have no choice but to consider relocating to other sites. Despite the beginning of the demolition of parts of the community, alternative spaces for dwelling were not offered to the people. The space available for living will not only be much smaller, it will also leave no space for communal activities. The bulldozers had already destroyed the first stretch of houses. Within seven months the demolition had started, erasing the multi-species ecology of the edgeland, posing the risk of turning its inhabitants from figurative deleuzoguattarian nomads to literal ones.

6.5 CONCLUSION

The chapter posed the question: How do different urban struggles articulate the affective and material politics of Bangkok's contested hydro-futures?

The two social struggles analysed make obvious that the conflict over "staying put" in times of climate change adaptation measures involve the mobilisation and articulation of identities, lifestyles and threatened livelihoods. In the context of wider discussions on climate change and

displacement and resettlement options, the urban examples chosen highlight that such struggles may emerge in the space of a few mere meters in urban niches, rather than across vast spatial distances. The political within resettlement measures is thus not limited to thinking about resettlement across oceans or countries, but is implied within the local grievances of urban populations threatened to be evicted within efforts to climate-proof a city like Bangkok. The number of people displaced and the distance between origin and place of resettlement might be less dramatic than in debates about relocating entire island populations; yet, the intensities circulating through these policy measures are neither less harsh nor less violent. Within a climate change-impacted present, we need to come to terms with organising inhabitable space in equitable ways where a (possibly naïve) hope of the rule of law and respect for human rights might not suffice to save us. As such, the chapter proposed a comparative look at two urban struggles to attend to the micropolitics of climate change and displacement and to look at the strategies and tactics used by the struggles to achieve open futures – however provisional or temporal.

The concept of assemblage has contributed to answering the posed research question in several concrete ways. In discussing the struggles that emerged in response to the planned riverfront development, assemblage theory has proven useful to attending to the particular politics of time that emerge within the duration between planning and implementing the controversial project. This duration was strategically broadened through various activities by the activists in order to reach out to a wider public and initiate some debate around the project, which – given Thailand's dismal human rights and freedom of speech records – can already be seen as a first important step to carve out a terrain for creating open futures. Assemblage thinking moreover offers us the theoretical tool of the nomadic war machine, which refers to any socio-material assemblage used by people to liberate striated space and turn it into smooth space. Infographics, art and social media were seen as such war machines. In particular, the discussed infographic has been discussed as an element of the affective politics circulating within the protest assemblage, as art can potentially achieve the "coming-together of affect and reason" (Saldanha, 2012, p. 277). Moreover, through the concept of assemblage, two concrete activist actions were analysed in which material

objects such as alternative promenade designs and floating devises during the Buddhist Loy Krathong ceremony emerged as nomadic weapons to create open futures. Whilst the alternative promenade designs functioned as coordination devices that allowed people to connect and discuss the proposed promenade, the floating devices released during the Loy Krathong activities can be seen as material objects capable of producing veritable lines of flight. Their circulation along the river creates the potential of wider publics to connect to the struggle and be drawn into the emerging activist assemblage. As such, material politics underpinning the struggle speak of a potentiality to create open futures by creating new, spontaneous and unplanned urban encounters that may create new opportunities to connect to the river.

The struggles along Khlong Lat Prao and Bang Sue reveal a different form of material and affective politics and political tactics to engage with the proposed revitalisation of the *khlongs* as drainage infrastructure. Using an assemblage perspective, the space along the *khlongs* inhabited by informal communities reveals its deep ambiguities. Sure enough, beneath the almost romantic atmosphere of an ungoverned urban inter-species wilderness lurks the reality of social hardship and socio-political and economic marginalisation. In particular, the stigma of living in a "slummy" place leads to a nomadic position in which the local community finds it hard to make claims to the narrow strip along the *khlongs* based on their identity as a traditional water-based community. Compared to the foregrounding of the need to protect local communities along the Chao Phraya within media reports and the interviews with FOR and BIG TREE, displacement along the *khlongs* appeared less problematic, judging by the little media attention the struggle was able to generate. A deleuzoguattarian perspective on nomadism is useful for thinking through the ambivalences of the communities' identity with regard to the state. Importantly, nomads seek to defend their territories, while entangled within the state apparatus and often lacking the capacity to effectively make their voice heard. Trapped within such an antagonistic but not fully oppositional position, Auntie Lek and her community seem incapable of breaking away from the striating powers of the state. As such, their political strategy of attending municipality meetings, seeking to negotiate some form of agreement with the state (however unfavourable to them), shows that while they are seen by the state, they lack the capacities to challenge it. Rather than

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explaining the seeming "failure" to protect the *khlong* community of the second example with the arborescent nature of their attempt to organise resistance, it is here when deleuzoguattarian "molar aggregates" (Watt, 2016) such as class or race resurface as important vectors structuring power relations and molecular desires within social struggles.

The deleuzoguattarian perspective taken within this chapter makes us appreciate the complexities of the functioning of state institutions in a non-democratic state. Here, the will of the majority might not always be a liberating force, and distrust towards alleged public concerns over urban-hydro futures seems even more warranted. The attention towards the chosen sites of struggle reveal the urgency to cultivate more equitable terrains from which to cultivate open futures and it shows how such open futures crucially depend of the formation of (even if only provisional) alliances and solidarities across heterogeneous actors to keep up the experimental search for a fair climate present and future, despite an unfair climate past. Furthermore, it seems to warrant an ethical commitment towards cultivating our powers to be affected, to realise our entanglements in wider socio-ecological assemblages. The chapter therefore has spoken to the politically controversial measures of climate change-induced resettlement by lending an "impossible ear" (Bignall & Patton, 2010, p.10) (an ear that makes audible what would not be heard otherwise) to local grievances involved in urban resettlement schemes. Moreover, it has advocated for the search of open futures in the context of urban climate change and displacement, and shown how the potential for such futures can be present even in times of dictatorship.

7 CONCLUSION

7.1 INTRODUCTION

Throughout the dissertation I aimed to better understand the complex ways in which climate change, displacement and urban-hydro relations are connected in Bangkok. My aim was to think through the politics of these relations and to map the complexities that shape them. By doing so, the dissertation spoke to (- possibly argued with-) a set of literature that revolves around the link between climate change and displacement, configuring this link as either a form of migration or desperate refuge. Instead of limiting the investigation to inquiring the accuracy of categories of so-called "climate migration" or "climate refugees", however, new conceptual space was carved out to think through the mundane, the small-scale, the temporal and vertical forms of *displacement* experienced by the Bangkokians I met. As such, the dissertation was testing the limits and boundaries of climate change and migration/ climate refugee literature and proposed an alternative conceptualisation of climate change and displacement as an emerging urban assemblage.

Importantly, the dissertation foregrounded three key issues within the climate change and migration/ refugee literature that triggered this experimental research design. First, climate change and displacement is perceived as a political relation. It is a relation that revolves around questions of justice and poses questions about how we envision future life on earth. Second, climate change and displacement is a crucially urban relationship. Cities are neither mere sites of climate chaos, nor sites of unproblematic economic integration of rural climate migrants. Rather, cities are understood as the complex terrain where climate futures will be envisioned, contested and implemented. Finally, climate change and displacement is deeply embedded within wider webs of socio-material, political and cultural relations that influence the ways in which both displacement and altered climatic conditions will emerge. The dissertation turned to assemblage theory to explore these three concerns.

In this final section concluding thoughts on the three concerns that run through the dissertation and the chosen theory are offered. Section 7.2 reconsiders the appropriateness of the idea of "open climate futures" and the relation between Asian philosophies and such a conceptualisation. 7.3 reflects

on the research aims and this dissertations' contribution. Section 7.4 reflects on the research questions and methods used. Section 7.5 acknowledges a set of shortcomings of this dissertation. And section 7.6 provides some reflections on further research.

7.2 REITERATING COMMITMENTS

When I sat down with the two BIG TREE activists our conversation at one point started to revolve around why the two had become activists in the first place. I was interested in what motivated and inspired them to become engaged in the messy and muddled politics of Bangkok. The woman I talked to explained:

> *You know, both of us [referring to herself and the male activist who accompanied her] we read texts on Buddhism and sometimes we go on meditation retreats. And we find that most people who are there or who go on meditation on a regular basis, they just do it for themselves. They are not doing it because they want to be part of this world and want to help society as a whole. Whereas if you look at Zen Buddhism, I think it is a more engaged sort of Buddhism. It talks about a person being part of society. And once you are part of a society you should do something good rather than bad for society.*
>
> *[BIG TREE female activist, January 2016, Bangkok]*

In chapter 2 I had already alluded to the political purchase a theoretical framework that is linked to non-Western ontologies can have for this specific research project. After meeting the activists, I started to read more on the connection between Deleuze and Asian philosophies:

"[...] Spinozan ethics is an ethics of joy; so it is with Zen. Bergson celebrates élan vital (生命力) and sees intuition and immediate experience as far more important than the intellect for understanding the world; so does Zen. Nietzschean philosophy is a life philosophy; so is Zen" (Zhang, P. 2016, p. 412).

The repeated encounters in the city with forms of animist worship, monks and ghost houses sensitised me for the need to take this non-Western potential that can be found in Deleuze and Guattari's work seriously.

Image 7.1. Worshipped tree decorated with rope. Lumpini Park, Bangkok. Own image.

In this short section I want to return to the question of open futures and show how they not only related to assemblage theory's commitment to lines of flight and smooth space, but also touch upon some fundamental predicaments that can be found in an engaged Buddhist perspective on justice, politics and life itself.

To recapitulate, imagining open futures in the context of climate change and displacement seems necessary as much as the literature on either climate migrants or climate refugees tends to "confine the imagination to only the possibility of surviving climate change by adapting to an anticipated loss" (Baldwin, 2016, p. 86). Consequently, "What is foreclosed [is] any sort of affirmative affect, which might usher forth new forms of social, political and cultural life as bodies and worlds collide" (Baldwin, 2016, p. 86). The imagination of such emerging urban climate worlds involves a readiness to allow change to appear and to reconfigure how bodies relate to each other. Crucially, such imaginations suspend the need for top-down policies that seek to govern and manage the flows of such bodies. Open futures, thus hinge upon the lines of flight that may emerge when bodies encounter one another. Open futures in this dissertation were found in Miti's art work that shows new forms of inter-species care, temporary dwelling structures that involved tapping into the affordances of urban materiality and vertical living

arrangements (chapter 5). Open futures could also be glimpsed in the stories on urban refugees who temporarily could rely on the generosity of military personnel and police officers (chapter 5). Finally, the lines of flight that emerged during FOR's protest activities at the Loy Krathong festival (chapter 6), subversively adding political contestations to the folkloric festival, may increase chances for open futures. In politically troubling times where both visions of climate change and especially perceptions of migration and refuge becoming increasingly gloomy (Bettini & Baldwin, 2017, p. 1), it seems politically necessary to remind one another of how we can also envision shared futures *otherwise*. But how then do open futures relate to Asian philosophies then?

I do not wish to pretend that I have mastered extensive knowledge of the diverse traditions of what I broadly refer to as "Asian philosophies". Here, I merely want to point to a few specific elements of particular modes of thinking that were developed in Asia many centuries ago to show how thinking about open-futures as a quest for justice might also be understood as a cross-cultural, potentially de-colonial, politico-ethical project. In particular within early Daoist and Zen traditions there is no dichotomy between human and non-human entities rather these perspectives envision a world where all entities are fundamentally inter-connected (Zhang, P. 2016; Bennett, 2010). It is within the loss of such a connection where potential dangers for the entire system of life lurk: "What should be a circle of life, of interconnected life forms, has already started to work as individual parts going in different directions, leading to malfunctions and negative consequences in many parts of the system" (Sivaraksa, 2014, p. 147-48). Turning to Daoist ways of perceiving environmental ethics: "Daoism epistemologically and ethically "saves the phenomena," potentially correcting the one-sidedness of anthropocentrism and biocentrism by attending to these things themselves - intrinsically and for their own sake rather than as objects reduced to value, use, and exchange - in the context of the self-cultivation or perfection (zhen) of life and reality" (Nelson, 2009, p. 295). As such this point seems to connect well with for example a call for inter-species care (chapter 5) in times of climate change or an appreciation of the unsettling force of water and the need to consider ways of working with rather against such forces (chapter 4). Neither engaged forms of Buddhism nor a Daoist perception of nature and ethics will present us with

a set of clear, moral imparatives (Nelson, 2009; Sivaraksa, 2014; Zhang, P. 2016), rather they encourage us to be attentive and mindful of our own interconnectedness and carefully and responsibly experiment with the limits and boundaries of what we can endure. Engaged Buddhism and a philosophical commitment to joy and life itself seem to share key predicaments from which we can build collective open futures. Jane Bennett, put it like this: "Its [vitalism] political potential resides in a greater sense of interconnectedness between humanity and nonhumanity"(Bennett, 2004, p. 367). And it is from this simple awareness that I have proposed to re-think what is at stake when we think about the relationship between climate change and displacement.

7.3 Reflections on research aims and Contributions

The first aim of this dissertation was to reorient existing debates on the relationship between climate change and displacement to consider more closely the emerging socio-materiality of the relationship through the theoretical lens of an assemblage.

A particular vitalist reading of assemblage theory was proposed as suitable for such a project (Bennett, 2010 a & b; Braidotti 2011, 2013; Lancione, 2016). From this ontological position an investigation into the emerging connection between climate change and displacement and its' affective and material politics was possible. Crucially, human and non-human actants were seen as forces that condition the co-evolving flows of water and people in Bangkok. The first aim was sustained within the three empirical chapters of the dissertation that attended to different historical and contemporary dimensions of the material and affective politics underpinning the climate change and displacement assemblage. Within chapter 4 a vitalist reading has proven useful for attending to the different human and non-human desires that continue to animate Bangkok's urban transformation. Desire as the driving motor of an assemblage is explored in both its human and impersonal dimension, as a source capable of producing change through novel combinations of material entities, feelings and discourses. The concept of assemblage here enriches our perception of climate change and displacement by grounding the emerging relation in a socio-historical context. The historical relation between climate change and displacement in Bangkok

it was argued is not characterized by large scale mass displacements that are seen as common-sense responses to climate change in the respective literature, but rather seen as a seasonal *adhoc* adaptation that involved the temporal relocation along the urban water ways. Fluvial, urban dwelling structures supported such mobile adaptation, demonstrating that it might be quite appropriate to think of the climate change and displacement assemblage as a historical relation in which: "... migration is not a chance occurrence within history, but *is* history" (Colebrook, 2017, p. 120). A vitalist perspective opens up ways of taking non-human agentic capacities of water, concrete and mud into account that shape such histories.

By pursuing the first aim, the dissertation contributes to climate change and displacement literature as it offers a new perspective on climate change as a force impacting on all planetary materiality. Rather than adhering to a perspective that sees climate change as an independent variable, the vitalist ontology proposed in this dissertation appreciates the agentic force of non-human actors and brings human and non-human actants onto the same ontological level (Lancione, 2016). Such a perspective is useful as it makes debates on climate change and displacement more connective to e.g. ethnographic work produced in non-Western countries (e.g. Bravo, 2009; Cruikshank, 2005). The dissertation can thus be seen as a conscious probing of Western ontological predicaments and an opening towards more situated ways of perceiving and knowing the relation between climate change and displacement. Assemblage theory thus contributes a novel way of thinking through climate change and displacement.

The second and related aim was to attend more closely to the *urban terrain* as a site for political contestations in which these material and affective politics are manifest historically as well as within the near future/present. This second aim contributes to reorient debates about climate change and displacement towards the urban as a particular political time/space. As in 2016, an estimated 54.5 per cent of the world's population lived in urban settlements (UN Data booklet, 2016, p. ii), paying attention to the historical developments, and the complex struggles for urban futures enriches our conceptualisation of the politics of climate change and displacement. Drawing on assemblage urbanism literature (McFarlane, 2011;

Simone, 2010, 2011; Farias, 2011; Dovey, 2012, 2012), a rich theorization of the complex and multiple urban worlds that comprise Bangkok were made possible. Apart from allowing for a more substantive reflection on how the socio-materiality of urban worlds will be altered by climate change, the urban focus of the dissertation also introduced a wide set of the types of bodies that may be displaced by climate change and the forms of displacement they may experience. While critical studies on disaster displacement (Sheller, 2012; Cook & Butz, 2015, 2016; Santha et al., 2016) have already started to think about the de/re-mobilising effects of e.g. race and class on mobility during crisis situations, the dissertation stirs climate change and displacement debates into a similar direction. Moreover, within the urban new forms –or better directions- of displacement along the vertical line emerge that contribute to a careful questioning of the categories of "trapped or maladaptive" (e.g. Foresight, 2011) populations.

As such the dissertation contributes a more nuanced appreciation of the role of cities within the climate change and displacement relation. Urban materiality is seen as crucial to afford shelter to human and non-human beings. It is through this material affordance that open futures can flourish. Here we find a concrete example of how the material alignments during the inundation proofed to be a way to secure cohabitation between animals and humans. This line of flight –spontaneous, ambivalent and provisional as it may be- offers insights into a politics of open futures that are characterized by inter-species care and solidarity against the doomsday narratives so commonly found in anthropocentric stories about climate change and displacement. The urban, moreover, is a time-space were local struggles reveal the political contentions involved in political measures to curb the effects of climate change and make urban spaces more resilient. The urban as densely populated and deeply heterogeneous space allows for insights into the complex affective and material politics at stake. The concept of assemblage contributes to revealing the affective and material strategies and tactics used by activists to fight for equitable urban futures. Open, urban futures here do rarely arrive accidentally but are struggled for. These struggles rely on alliances and generosity across heterogeneous actants.

The third aim of the dissertation was to carve out a conceptual territory from which to better understand the politics that circulate within the

urban climate change and displacement assemblage. In particular concerns about justice and its relation to open futures are seen as central to such politics. By focusing on the possibility of lines of flight emerging from the climate change and displacement assemblage the dissertation has focused on presenting an alternative politics to the doomsday narratives so often found in climate change and displacement literature (e.g. Myers, 1993, 2001, 2005; Dupont & Pearman, 2006). Whilst not denying the hardship caused by displacement, the dissertation paid attention to the moments of solidarity and generosity emerging e.g. within the 2011 inundation. Moreover, chapter 4 and 6 have explicitly forged a connection between debates on climate change and displacement and literature discussing social movements through the concept of assemblage (McFarlane, 2009; Tampio, 2009; Wood et al. 2013; Watt, 2016).

Thus, the dissertation has contributed to thinking through what is at stake politically within the climate change and displacement assemblage on two distinct levels. First, politics were seen as a direct conflict between molar desires and molecular forces within the contestations on Bangkok's hydro futures (chapter 6). Such conflicts may potentially increase in the future and will warrant careful assessments in each individual case. While enhancing urban adaptation measures may secure the livelihoods of many, they may put small informal or otherwise marginalised communities at risk. While assemblage theory does not offer a solution for such conflicts, it affords is with the conceptual tools to chart such discontents and to investigate potential open futures in their wake. Second, politics were explored as material and affective during e.g. the 2011 flood and within Bangkok's historical transformation from water to land based city. Material and affective politics broaden our conceptualisation of actors towards actants that include the non-human world (Bennett, 2005, 2010 a & b; Coole, 2005). Breaking down the neat divides between object/ subject and acknowledging our mutual imbrication can potentially contribute a greater awareness to the impact climate change may have on various types of displacement (on people, materials, animals etc). Finally, the vitalist ontology of the dissertation and its connectivity to non-Western philosophies can be seen as a particular political stance taken here. An assemblage theory approach contributes to a potentially

de-colonial project that starts its investigations from non-Western ontological premises.

7.4 REFLECTIONS ON RESEARCH QUESTIONS

This section offers a further set of reflections on the research questions used within the dissertation.

Reflections on research questions

1) How can the concept of assemblage contribute to a more nuanced understanding of politics involved in the link between climate change and displacement in Bangkok?

The concept of assemblage enriches our conceptualisation of the politics involved in the connection between climate change and displacement by offering tools to broaden our understanding of politics to include dimensions of 1) material and 2) affective politics. From a vitalist ontology, materiality is seen as animated with the capacity of change. Climate change from such a perspective is seen as the real alteration of material environments. Through processes of de/ and re-territorialisation along both machinic assemblages and collective assemblages of enunciation such changes are analysed. The concept of assemblage encourages a close investigation of the conflicting desire and power relations that feed into the politics involved in these material alterations. Within a South East Asian context the vitalist ontology of assemblage theory seems to be particularly suitable, as the belief in an animated environment endowed with the capacity to act is widespread in the region. Affect is seen as an impersonal force that circulated between bodies. Embodied, affective experiences can e.g. trigger movements away from hazardous sights. Adding such a sensory register to inquiries into the effects of climate change into human displacements allows for a more grounded and nuanced appreciation of the relation. It opens up the link between climate change and displacement to consider embodied ways of perceiving and knowing the environment. The concept of assemblage thus contributes a novel direction of inquiry into the politics that underpin the climate change and displacement relation.

2) How can qualitative research methods contribute to a critical engagement with the emerging urban climate change and displacement assemblage?

Qualitative methods are foregrounded in this dissertation as providing the insides needed to unpack the messy, embodied and complex relations that make up the urban climate change and displacement assemblage. The qualitative methods contribute to critical climate change and displacement research by suspending the need for previously defined categories and allowing for being attentive to various degrees and forms of displacement. Rather than providing a new typology of displacement, the qualitative research methods used thus create the necessary room to inquire into the complex lived experiences of various urbanites in the face of climate change. Moreover, these methods enable an analysis of what embodied knowledge that can be observed, but not easily expressed in words can contribute to our understanding of climate change and displacement. The ethnographic observations and on-site interviews in particular share an attention towards critically reflecting on agency/practice as well as sensory experiences/affect. As such, the methods contribute to the task of developing critical research on climate change and displacement, by foregrounding the importance of taking seriously the lived experiences of a diverse, cosmopolitan set of urbanites that exceed conventional categories of climate refugees or climate migrants as proposed in much of the reviewed literature (see Chapter 1 and 2).

3) How do historical forces, affects and actants shape the urban context in which the climate change and displacement assemblage emerges?

A historical perspective on the link between climatic changes and displacement in Bangkok reveals that people used to be well adapted to the altering hydro-scape of the delta. In particular within the early Bangkok period (1793-1850s) urban life was embedded within the wider delta ecology and the city formed a historical assemblage in which the yearly monsoon season shaped the rhythm of urban life. From the 1850s onwards the city was slowly transformed from fluvial to terrestrial built forms. In particular powerful elites shaped this urban development. The terrestrial turn was further intensified during the Cold War period. Yet, the increasing number of roads and condominums in the city were met by the de-territorialising forces

of water, slowly undoing the now terrestrial urban assemblage. Charting these historical forces and actants and their distributed roles in Bangkok's urban transformation helps to map some of the limits and boundaries of the urban climate change and displacement assemblage. Roads, rain, concrete, land titles, war captives, migrant workers and expatriates are drawn into the emerging relationship between climate change and displacement and develop differentiated and unequal capacities to affect each other and to effect change within the capital. As such this chapter provided a historical background to think about the material and affective politics that continue to influence climate change and displacement in Bangkok.

4) How can assemblage thinking enrich our conceptualisation of urban displacement experienced in extreme weather events?

The concept of assemblage provides the analytical tools to attend to the deeply heterogeneous displacement experiences during the 2011 flood in Bangkok. The relational property of assemblages can be mapped through the associated spatial concept of topology. During the inundation in Bangkok in 2011, a topology of displacement emerged within the flood assemblage that involved molar reshufflings in e.g. economic and socio-political relations. While the flood altered the flows of capital with regard to production sites in the vicinity of Bangkok, the essential relation between capital and (cheap) labour were maintained. Similarly, the flood assemblage has shown how displacement experiences of different mobile bodies (e.g. that of tourists and migrant workers) were embedded in a topology of power that distributes mobility options unequally. Yet, the concept of assemblage also provides us with a clue of thinking about topological limits in which the hitherto maintained relations break. Such limits can be seen as lines of flight. For example, the slippages in coding racialised bodies, the moments of inter-species care and solidarity provide us with insights into the power of the floods assemblage to (temporarily) lead to phases of complete deterritorialisation. Assemblage thinking thus provides us with a set of conceptual tools that foster attentiveness to both aspects of the inundation: change and retained relations. Moreover, it enriches our thinking of displacement experiences by foregrounding the possibility of open futures to emerge within the experiences of extreme weather events.

5) How do different urban struggles organise contested affective and material politics imbued within the urban hydro-futures of Bangkok?

The two social struggles analysed make obvious that the conflict over "staying put" in times of climate change adaptation measures involve the mobilisation and political organisation around issues of identities, lifestyles and threatened livelihoods. In the context of wider discussions on climate change and displacement and resettlement options the urban examples chosen highlight that such struggles may emerge in the space of a few mere meters in urban niches, rather than across vast spatial distances. Climate change will force us to endure the uneasy questions and tease out ethical positions anew every time we encounter efforts to alter densely populated urban environments. Assemblage thinking offers us the theoretical tool to make sense of different ways of organising social protest as either within the form of a collective assemblage or a more arborescent structure based on social hierarchies, membership and representation. In particular within collective assemblages activists can employ the use of what Watt (2016) calls a nomadic war machine to augment their power to affect wider publics. This war machine refers to any socio-material assemblage used by people to liberate striated space to turn it into smooth space. Info-graphics, art and social media, as well as participatory actions along the Chao Phraya River during the Loy Krathong festivities were seen as such war machines that aimed to create smooth space for open futures to emerge. Within more arborescent struggles the possibilities to employ such war machines to liberate space form being coded or over coded through the state are less likely, as the other example has shown. To turn urban hydro-futures into open futures, continuous work to enable alliances across heterogeneous groups seems thus paramount.

Reflections on research design and methods

An initial reflection on the methods chosen and their shortcomings and the challenges I encountered during fieldwork was presented in chapter 3. Here, I only want to briefly reflect on the potential of an IUC approach for this project and then I consider the use –or lack of use- of visual material I produced during my fieldwork.

While interest in experimental ways of urban comparison have risen (Robinson, 2011; McFarlane & Robinson, 2012), intra-urban comparisons are still relatively new (McFarlane, Silver & Truelove, 2016). Given the project's focus on displacement within and across the city of Bangkok, IUC proved useful for integrating the theoretical view of the city as constituted of multiple urban worlds into a methodological approach.

In chapter 4 and 5 the ethnographic explorations along the Chao Phraya River, the Sean Seab canal and the khlong communities contributed to a nuanced unpacking of how climate change and displacement emerges along various sites of the fragmented urban waterscape. Historically, the Sean Seab canal was an important route of connecting the Siamese capital to its neighbouring countries. Yet, while this canal was used for commerce and transport, it was dug by war slaves and is thus intrinsically linked to questions of power, race and the political and physical subjugation of particular bodies. The Chao Phraya River, used for similar endeavours of commerce and trade, however, further carries a deep spiritual meaning. Evidenced in the continues devotion of religious sacrifices during the Loy Krathong ceremonies, the river remains a site of political as well as religious flows. Here the climate change and displacement assemblage thus interlinks to questions of identity and culture. In particular during the 2011 flood, the sites most vulnerable to flooding were the informal communities along the remaining khlongs of the city. Auntie Lek's experience of the inundation shows us how the emerging climate change and displacement assemblage is also embedded in a political economy of space. It is precisely through the IUC approach that the different elements that are enrolled within the climate change and displacement assemblage could be uncovered and analysed. In chapter 6, moreover, it became obvious that an IUC approach is useful to reflect on two urban struggles that both revolved around the waterscape of the same city, yet had fundamentally different chances and opportunities to articulate their concerns. An IUC approach attunes us thus to the differences that shape collective political action within the same city, forcing us to acknowledge that there can be no "template urbanism" (Tonkiss, 2011) then investigating urban struggles. Such a comparative lens indeed breaks down assumptions about e.g. cities across the Global North/South divide as McFarlane and Robinson (2012) have mentioned by altering us to the uneven resources and accesses to e.g.

power, finance as well as risks or vulnerabilities found within one and the same city.

Missed opportunities

When writing about Mitis art work, I realised that I had given little consideration to the use of the photographs I took during fieldwork. Throughout the dissertation the images presented mainly serve as mere illustrations or representations of particular points made in the text. Yet, ethnographic scholarship increasingly uses visual material not only to illustrate findings, but also to co-produce meaning with participants (Pink, 2011 a). Amateur photography, Pink (2011 a) explains, can be a potent way of documenting the "'real' activities that local people were involved" (p. 92). In her experience there was real enthusiasm to collectively produce photographic outputs to document the achievement of e.g. a town activist gathering. She continues to explore "how amateur photography practices that involve sharing participate in the collective practices of representation and the constitution of place, rather than with photographic content as representation" (ibid. p. 93).

Given the experience of sharing images, texts, internet links to newspaper articles etc. with research participants on Facebook and Line (see also chapter 3), these elements could have been brought back more into the empirical chapters of the dissertation. Moreover, given the language divides between the local khlong communities and me, using non-verbal ways of co-constructing meaning through e.g. photography could have been a potentially much more participatory kind of research. Within the experimental framework of the dissertation such research activities would have been plausible. In hindsight I come to regret this omission of experimenting more with e.g. photography or other media or art outputs.

7.5 Shortcomings of the Dissertation

In chapter section 2.3.2 and 3.5 I have reflected on the methodological shortcomings and challenges encountered during data collection for this project as well as on the most salient critiques voiced against assemblage theory as a tool for critical urbanism. This section seeks to broaden the reflections on shortcomings and challenges into both wider ethic-political and

academic considerations by focusing on two questions that have emerged during the processes of writing this dissertation.

(Missing) de-colonial impact

While this dissertation was concerned with arguing that the concept of assemblage is useful for re-thinking the relationship between climate change and displacement, it might have neglected to properly substantiate in how far the concept of assemblage moreover serves as a tool to advance a postcolonial reading of such a relationship. While Chapter 2 is concerned with demonstrating that assemblage thinking is open to *vitialist* non-Western ontologies and epistemologies, the dissertation might feel like lacking a more substantial engagement with postcolonial literatures to sustain and advance this argument throughout the empirical chapters.

One of the reasons for this shortcoming, I believe, has to do with the data I collected. Whilst being in the field I was not quite attuned enough to this theme and not aware of how it would assume a particular centrality in my theoretical considerations that I wrote later on. The break between theoretical argument and empirical analyses thus potentially seems quite stark. While not being able to reconcile this lack of data at this point, I want to offer a short reflection on how certain stories of the flood could have been told more prominently with the support of postcolonial literatures and sensibilities and in how far this would have further enhanced a critique to the Maximalist and Minimalist tradition in climate change and displacement research.

In Chapter 5 I discuss the affective dimension of the flood and how the urban infrastructure made "sensing" the flood possible. While exploring this finding with the support of Joy Parr's work that foregrounds sensory responses of Westerns to urban change, here a bridge towards postcolonial texts that look at e.g. indigenous communities orienting themselves in changing environments could have enhanced the argument further.

Cruikshank's work on the relationship between Canadian glaciers and indigenous communities beautifully contrasts the way Western explorers developed a very different reading of the same space. The stark contrast between how these two different groups read the landscape and navigate through it shows what power patterns were –and continue to be at play- that

work towards an understanding of nature as inanimate and object of empirical investigations and human interventions (Cruikshank, 2005 p. 10). A postcolonial perspective on these contrasting views helps to render visible and audible the embodied and intimate knowledges people possess of their surroundings and it supports a political project of uncovering and debasing the ways in which we assume to know the world.

My dissertation would have benefitted from contrasting more explicitly the technical deliberations on water management through certain hydrological infrastructures in the city, that I heard from water experts at the GIZ with the old couple's intuitive response of trusting their familiarity with the smells of the neighbourhood before initiating their evacuation. Here, the Deleuzo-Guattarian assemblage framework and the associated concepts of e.g. affect and duration blocked me from exploring more in-depth the potential of a post-colonial critique towards rendering visible alternative ways of *knowing* climate change and displacement.

Ironically, while focusing on getting the "theoretical vocabulary right", I foreclosed some of the "lines of flight" that could have enriched the political commitment of this dissertation. Bringing postcolonial accounts and ideas about urban affects and infrastructure into conversation would have supported the argument on why assemblage theory can contribute further critical insights to climate change and displacement. Being worried about clearly communicating the relevance of the chosen assemblage approach and demonstrating its usefulness in the different chapters, unfortunately limited my attention towards other approaches and research traditions and inhibited me from examining how to bring such traditions into conversation. What is more, being conscious of "playing by the book" and observing guidelines on writing styles and structure, as well as a potentially stifling focus on ontological constituency, further seemed to have inhibited a more direct or active voice within the text that would have been appropriate for creating a stronger postcolonial sensibility and tone within the dissertation.

With regard to these shortcomings, future projects on urban climate change and displacement would profit from using the concept of assemblage in concert with a range of other critical perspectives such as urban political ecology (UPE) and postcolonial studies. Especially within UPE research

advances have been made to bridge precisely these (UPE, assemblage theory, postcolonial theory) three theoretical strands. Lawhon (2013), Lawhon et al. (2014), Lawhon et al. (2016) argue for a *situated* urban political ecology (SUPE) by drawing on theories from African urbanism to investigate the particularities of African cities. An important link between assemblage theory and SUPE is found in the work of scholars like Abdoumaliq Simone (2010, 2011a, b, c) who use the concept of assemblage as a way to understand the complex and sight-specific processes of African and Asian urbanism. Through close ethnographic observations Simone, for example, pays key attention to the emergence of local economies and the co-constitutive roles of urban materiality in the unequal processes of urbanisation (Simone, 2010). The political argument the SUPE collective pursues is to widen and provincialize theory creation to allow for de-colonial ways of knowledge production and epistemological pluralism through the conceptual flexibly of assemblage thinking.

Moreover, Doshi (2017) has recently brought UPE, assemblage thinking, postcolonial theory as well as feminist geography into the debate on how to advance the field of knowledge production on human-environment relations. She maintains that by integrating these fields one can advance a more embodied political ecology that allows for pulling together the affective, emotional and material dimensions that tend to be absent much of political ecology. I see great potential in such research for further enhancing knowledge creation on climate change and displacement in my following research projects. (See also the two following subsections that further revolve around questions of gender and discuss the relation between my work and UPE.)

Moreover, I remained cautious of calling this dissertation "de-colonial". Debates on de-colonial practices and theories within academia seem to foreground a set of criteria or benchmarks for a project to fulfil. First, de-colonial academic practices should serve to decentre the privileged voice of the white, western (male) academic and make room for marginalised voices (e.g. Baldwin, 2017 b; Noxolo, 2017; Radcliffe, 2017). Radcliffe summarizes this as: "the decolonial turn encourages re-thinking the world from Latin America, from Africa, from Indigenous places and from the marginalised academia in the global South" (2017, p. 329). Certainly, this dissertation tried

to demonstrate (chapter 2) how assemblage theory and Non-Western perspectives can fruitfully be brought into conversation, yet, the empirical material collected for this dissertation did not quite suffice to make such an ontological dialogue between e.g. Taoist or Theravada Buddhism and assemblage theory the core theme uniting the dissertation.

De-colonial projects moreover seem closely connected to particular struggles and born out of concrete contestations (Tolia-Kelly, 2017; Elliott-Cooper, 2017). Radcliffe summarizes this as: "Knowledge production is thus understood to occur alongside and outside of the university, in large part enriched by South–South flows of knowledge […] and activist intellectuals" (2017, p. 330). While such a position is amicable and highly necessary to pluralise knowledge production, this dissertation falls short of at least the last point raised by de-colonial scholars. In fact, what remains to feel like a particularly severe shortcoming of this dissertation was the lack of time to consider appropriate ways of disseminating the findings of the project amongst the people who have contributed to it. Sending this dissertation to Auntie Lek, for example, would not make much sense as she does not read English. It would amount to self-betrayal that this dissertation could suffice the high, amicable and politically justified standards of a participatory approach. Six months "in the field" with no prior connections have not sufficed to build strong and sustainable enough relations to the research participants to have found an appropriate way of giving something back. As this dissertation was approved by the Thai National Research Council, a final report will have to be sent to the Thai government and will be disseminated throughout their webpage. Yet, such a route of dissemination seems to do little for the community leaders or refugee organisations I met and worked with during my time in Bangkok. As time for this project is running out, I am currently thinking about other ways of contributing to their causes or at least communicating back my findings. Possibly, here a connection between my written accounts and the field work snap shots I took could somehow serve to disseminate my findings beyond the confines of academic work.

Material politics of "lack" and "absence"

Throughout the dissertation the material and affective politics attended to stemmed from degrees of excess and affluence (e.g. Anderson & Wylie, 2009;

Anderson et al. 2012; Protevi, 2009). The urban built environment becomes so crucial in shaping displacement experiences, it was argued in chapter 5, because of the myriad of affordances stemming from it. Water, chapter 4 insisted, has a de-territorialising presence because of its exorbitant exterior relations, because of its force to flow and carry away. Excess, affordances and affluence were seen as key properties of matter to unlock thinking about the politics of urban materiality (e.g. McFarlane, 2011; Simone 2011 b). Yet, the dissertation hardly discussed moments of lack or absence (Bamford, 2013). Put differently, if hydro-futures are about uncertain availabilities of water than Bangkok is a superb research site to think about the politics of excess of water but might not help us much to think through the *lack* of it. What might be more, this relative inability to discuss the politics of "lack" in urban hydro-relations might not be caused by the research site alone but potentially also hinges upon the chosen theoretical framework or at least the way it was employed here.

There seems to be a noticeable divide between discussing water as material, excessive and laden with potential (e.g. Strang, 2014; Linton, 2010; Davies, M.I.J. 2014; Ranganathan, 2015) through (more-or-less explicit) vitalist frameworks and a set of literature known as political ecology and urban political ecology (UPE) that tends to think about the inequalities of human-water relations through historical materialism (e.g. Swyngedouw, 1999, 2004; Kaika, 2004; Keil, 2003, 2005; Loftus, 2007, 2009; Robbins, 2012; Heynen, 2014). In these UPE conceptualisations lack and absence of e.g. potable water are explained through relations of social metabolism that are reflective of broader structural inequalities. Lack is here perceived as a socio-material outcome of social inequality. For now it can be perceived as a short come of this dissertation to only think through the material politics within situations of access and affluence. Further research seems necessary to explore more rigorously how assemblage theory can be used to analyse situations of lack of particular materialities in the urban.

Anderson and Wylie's cautious warning that an interest in materiality should not limit itself to explore solid states could be taken as an starting point: "This principle may be expressed as follows: matter potentially takes place with the capacities and properties of any element (ie earth, wind, fire, air) and/or any state (ie solid, liquid, gaseous). The question of materiality

therefore far exceeds any invocation of ground or physicality" (Anderson & Wylie, 2009, p. 319). Similarly, notions of lack and absence might be explored through assemblage theory's attention towards the virtual/actual but have found rather little mentioning here.

The absence of gender

While this dissertation is not geared towards investigating how structural attributes like race or class shape the emerging climate change and displacement assemblage, both race and class (understood as molar formations) feature within the analysis of the material collected. Yet, this dissertation remains suspiciously silent about the effects gender may have on producing difference in the emerging climate change and displacement assemblage. The reason for this neglect is not to be found in the researchers' disregard for the potentially unequal power relations expressed through gendered relations. Rather within the interviews and ethnographic observations, gender did not play a significant role. The silence on matters of gender has another reason that potentially seems somewhat odd at first. Bangkok as a global city has attracted a wealth of research on gendered bodies in particular in relation to the global sex industry in which the Thai capital plays a significant role. In fact, portrays of the city often feature remarks like:

"Bangkok's bars officially close at 2 a.m. but the anything goes nightlife continues in private clubs and hotel rooms. Bangkok "smells of sex", Paul Theroux [American travel writer] wrote in the 1970s, "but this sexual aroma is mingled with the sharper whiffs of sex and money" (O'Neil, 2008, p.5).

Certainly, the sex industry is of crucial relevance to understand Bangkok's formal and informal economy. The industry is omnipresent in the inner city and at times it is hard to avoid getting a glimpse of it. Yet, it was important to me to portray Bangkok through a different angle. To explore Bangkok as a site of multiple complex relations and as a city that smells as much of sewage and monsoon rain as of commercial sex. In hindsight, the hesitant engagement with the topic of gender in this dissertation had to do with the wish to provide an alternative exploration of the city. Nevertheless, this led to the creation of a blind spot within this dissertation that could not be corrected throughout writing it as a further return to the field to collect specific date was impossible.

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7.6 FURTHER RESEARCH

Through the concept of assemblage the dissertation has provided a rich way of reconsidering what is at stake politically within the relation between climate change and displacement. Yet, more substantive research seems necessary to both continue to tackle the shortcomings of this dissertation and to successively expand its scope. Here a line of enquiry is selected to reflect on how the project of searching for open futures within the context of climate change and displacement could be further developed.

Climate change, displacement and the Anthropocene

As argued in the previous sub-section, discussions on climate change seem to warrant a greater examination of temporality. One relatively recent temporal marker that has raised interest in academic debates is the Anthropocene. Indeed, at the edge of this dissertation seems to loom this particular set of literature concerning urban life in the *Anthropocene*. Within discussions on climate change and displacement this term has attracted some curiosity (e.g. Colebrook, 2017; Brown, W. 2017).

The term, a proposal by the Dutch chemist Paul Crutzen in 2000, proposes to describe the geological epoch we live in as the new age of men (*anthropo* = man and *cene* = new) (Zylinska, 2014, p. 18). The argument goes that the name *Anthropocene* better reflects the profound impact of humans in consciously (and unconsciously) reorganising planetary ecological systems than the previous term *Holocene* (Hodson & Marvin, 2010). One of the distinct elements of defining this phase is the human awareness of our role as geological agents. Thus, the *Anthropocene* not only as a distinct geological phase, but also bears the potential of serving as an "ethical pointer" as Zylinska (2014) has termed it that forces us to critically reflect on humans particular role within the processes of ecological and geological unfoldings. Thinking through climate change and displacement in the age of the *Anthropocene* hence links well with this dissertation's call for exploring new ways of perceiving of interconnectedness, co-dependencies and co-emergence across multiple divides such as the human/ non- human or Global North/ Global South dichotomies. Rather than perceiving the "age of men" as a phase of total human domination, the *Anthropocene* is marked by severe inequalities to act and affect change (Haraway, 2015). The explicit temporal and ethical

focus of the term *Anthropocene* can thus further enhance insights into the emerging climate change and displacement assemblage. From such a perspective future research could take to inquire in how far the *Anthropocene* can serve as both ethical and temporal marker to think about open futures for the relation between climate change and displacement. As Haraway puts it: "The Anthropocene marks severe discontinuities; what comes after will not be like what came before. I think our job is to make the Anthropocene as short/thin as possible and to cultivate with each other in every way imaginable epochs to come that can replenish refuge [for socio-natural regeneration]" (Haraway, 2015, p. 160). The *Anthropocene* from this perspective might thus give a temporal vocabulary to locate open futures.

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9 ANNEX

LIST OF INTERVIEWS

#	Name/Type of organisation/ Profession	Name of interviewe e used in Text	Date of intervie w	Length of intervie w	Mediated/ Personal	Audio file (yes/no)	Transcription/Note s only	Themes discussed
1	Artist	Miti	Septembe r 2015	Approx. 90 min	Personal	no	Notes Only	Personal and professional experience of 2011 flood Bangkok art scene Insider/ Outsider
2	International Organisation of Migration (IOM)	IOM Country Officer	January 2016	Approx. 90 min	Personal	yes	Transcription	2011 flood and consequences for migrant workers Thai migration law Integration of migration law and disaster prevention
3	IOM	IOM Climate change and Migration specialist	January 2016	Approx. 60 min	Personal	yes	Transcription	IOM position on climate change and migration Relevance of ccm in the region Relevance of ccm in Bangkok
4	United Nations High Commissioner of	Member of staff	January 2016		Mediated, e-mail	no	Email text only	Situation of urban refugees in Bangkok

#	Organisation / Role	Interviewee	Date	Duration	Type	interview	Transcription / Notes	Topics
	Refugees							Effect of 2011 flood on urban refugees in Bangkok
5	United Nations Environmental Programme (UNEP)	Regional Director	February 2016	Approx. 45 min	Personal	yes	Transcription	The role of climate change adaptation and mitigation in Thailand and Bangkok; Connection between climate change and migration/displacement
6	UNEP Country Programme Officer	UNEP Country Programme Officer	Febraury 2016	Approx 2 hours	Personal	yes	Transcription	Politics of urban development and climate change in Thailand; Effects of the 2011 flood
7	Academic Chulalongkorn Architecture	Academic Chulalongkorn Architecture	September 2015	Approx 90 minutes	Personal	No	Notes only	Urban development in Bangkok, the terrestrial turn of the city, flooding in Bangkok, personal experience of the 2011 flood
8	Academic Chulalongkorn Geography	Academic Chulalongkorn Geography	September 2015	Approx 60 minutes	Personal	No	Notes only	Personal 2011 flood experiences
9	Academic Retired	Eric Cohen and wife	October 2015	Approx 2 hours	Personal	No	Notes only	The flood in 2011, contemporary issues in Bangkok's development and politics,

No.	Role	Interviewee	Date	Duration	Type	Recorded	Format	Topics
10	ACCCRN	Porpla	January 2016	Approx 90 min	Personal	Yes	Transcription	Climate change policies in Thailand, Urban climate change initiatives, activism in Thailand
11	Friends of the River NGO Spokesperson	FOR Spokesperson	November 2015	Approx 90 min	Personal	Yes	Transcription	River ecology, river front development, community engagement, urban design, activism during junta government
12	FOR Activist	FOR activist	November 2015	Approx 90 min	Personal	Yes	Transcription	See above
13	BIG TREE Activist female	BIG Tree activist female	February 2016	Approx 2 hours	Personal	Yes	Transcription	The flood 2011, the river promenade project, becoming activist
14	BIG TREE Activist male	BIG Tree activist male	February 2016	Approx 2 hours	Personal	Yes	Transcription	Becoming activist, Taoism and Buddhist believes, the military junta and river promenade
15	Community Leader at Khlong Bang Sue Community	Auntie Lek	December 2015	Approx 45 min	Personal Personal	Yes	Notes Only	First interview at Huay Kwang municipality meeting; Discussion of flood experience, discussion of BMA plans for khlong Lat Prao and Bang Sue
16	Community Leader at Khlong Bang Sue	Auntie Lek	February 2016	Approax 4 hours	Personal	Yes	Notes Only	Walk-along interview at khlong community,

#	Role	Name	Date	Duration	Type	Recorded	Format	Topic
	Community							Discussion of life in the community and the threat of resettlement
17	Community Leader at Khlong Bang Sue Community	Auntie Lek	October 2016	Appoax 2 hours	Personal	Yes	Notes Only	Re-interview to discuss the first changes in the community
18	Community Leader at Khlong Lat Prao Community	Jumras	February 2016	Approax 2 hours	Personal	Yes	Notes Only	BMA plans for the community governmental support during the 2011 flood and during the planned resettlement
19	Academic	Pongporn	January 2016	Approax 45 min	Personal	Yes	Transcription	Background of the Khlong Bang Sue und Lat Prao project
20	Academic	Yangyong	Septembe r 2015	Approax 1 hour	Personal	No	Notes Only	Historical and contemporary role of the waterways in Bangkok for drainage and transport
21	Asian Pacific Refugee Rights Network (APRRN)	APRRN Coordinator	February 2016	Appoax. 90 Minutes	Personal	Yes	Transcription	Livelihood strategies of refugees in Bangkok Mobility challenges for refugees in Bangkok in particular during 2011 flood Role of NGOs and governmental organisation to govern/ support refugee population

22	Director National Refugee Council Thailand	Director National Refugee Council Thailand	October 2015	Approax. 90 min	Personal	Yes	Transcription	Livelihood strategies of refugees in Bangkok Mobility challenges for refugees in Bangkok in particular during the 2011 flood Role of NGOs and governmental organisation to govern/ support refugee population
23	Director of Asylum Access (NGO)	Director of Asylum Access	October 2015	Approax 90 min	Personal	Yes	Transcription	Livelihood strategies of refugees in Bangkok Mobility challenges for refugees in Bangkok in particular during the 2011 flood Role of NGOs and governmental organisation to govern/ support refugee population
24	Asylum Access Employee	Asylum Access Employee	October 2015	Approax 30 min	Personal	Yes	Transcription	Livelihood strategies of refugees in Bangkok Mobility challenges for refugees in Bangkok in particular during the 2011 flood Role of NGOs and governmental organisation to govern/

#	Organisation	Position	Date	Duration	Type	Recorded	Transcription/Notes	Topics
								support refugee population
25	Asylum Access Community Outreach Officer	Asylum Access Community Outreach Officer	November 2015	Approax 90 min	Personal	Yes	Transcription	Livelihood strategies of refugees in Bangkok Mobility challenges for refugees in Bangkok in particular during the 2011 flood Role of NGOs and governmental organisation to govern/ support refugee population
26	Issara Institute	Labour Migration NGO	September 2016	Approax. 90 min	Via skype	Yes	Transcription	Situation of migrant workers in Thailand and Bangkok. Situation of migrants during 2011 flood
27	Expat family	Expat Family	January 2016	Approax 30 min	Personal	No	Notes Only	Personal Flood experience
28	German Institute for Cooperation (GIZ) Water expert	GIZ Water expert	November 2011	Approax 90 min	Personal	Yes	Transcription	Flood issues in the country and capital GIZ role to design green flooding measures
29	Country Director GIZ	Country Director GIZ	December 2015	Approax 90 min	Personal	Yes	Transcription	Role of GIZ in Thailand and Bangkok Role of GIZ in developing climate change policies in Thailand
30	GIZ Expert on	GIZ Expert	Febraury	Approax	Personal	No	Notes Only	

#	Position	Name / Subject	Date	Duration		Recorded	Transcription	Topics
	Transport Policy in SEA	on Transport Policy in SEA	2016	1 hour				
31	Employees of Heinrich Böll Foundation	Employees of Heinrich Böll Foundation	October 2015	Approax 2 hours	Personal	No	Notes Only	Informal chats about the Foundation's work in Thailand and my own research
32	Director, Natural Resources & Environmental Management Coordination Division Office of Natural Resources & Environmental Policy and Planning (ONEP) Ministry of Natural Resources and Environment (MONRE)	Director Natural Resources & Environmental Management Coordination Division (ONEP)	January 2016	Approax. 90 Min	Personal	Yes	Transcription	Royal Projects and sufficiency economy Thailand's climate change policy The 2011 flood River promenade project
33	Senior Officer at Department of Public Works and Town & Country Planning Ministry of Interior	Thongchai	January 2016	Approax 3 hours	Personal	Yes	Transcription	The historical transformation of Bangkok Role of different actors in the city's townplanning procedures

| 34 | Officer at Department of City Planning Bangkok Metropolitan Administration (BMA) | Officer at Department of City Planning (BMA) | February 2016 | Approax. 90 min | Personal | Yes | Transcription | 2011 Flood; Planning activities and challenges of the department; Climate change adaptation in Bangkok; Historical transformation of city 2011 flood |
| 35 | Chulalongkorn student volunteer | Oat | October 2015 | Approx 2 hours | Personal | Yes | (Partial) Transcription and notes | Flood relief efforts of the university |

LIST OF ETHNOGRAPHIC ACTIVITIES

Where?	When?	What?
Khlong Bang Sue Community and Lat Prao	November 2015	Visit the Khlong Bang Sue and Lat Prao communities with the professors Pongporn and Yangyong, get to know the community and the issues involved with the khlong widening. During the visit a camera team from the Public Broadcasting Company was present, working on a documentary on the potential of revitalising khlongs in the

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		capital
Khlong Community	December 2015	Re-visit klong Bang Sue and Lat Prao with Pongporn, learn more about the community and own visions for re-development. Boat tour along the canals. Other PhD and MA students were present. Pongporn intended this trip to be a study trip for his students and generously invited me to come along.
Khlong Community	February 2016	Interview with Auntie Lek, walking tour through the Bang Sue community. Stamp accompanied me for translating the interview
Khlong Community	February 2016	Interview with community leader, walking tour through Lat Prao community. Stamp accompanied me for translating the interview
Friends of the River: BACC exhibition	October 2015	Public exhibition of student design proposals for redeveloping the Chao Phraya river front
Friends of the River: Loy Krathong activity	November 2015	Public event to raise awareness of the government plans to alter the Chao Phraya river front
Huay Kwang Municipality	December 2015	Student presentation of

Event	Date	Description
workshop with Khlong community representatives		possible redevelopment plans for the Khlong Lat Prao and Khlong Bang Sue communities
Trip to industrial estates close to Ayuthaya	November 2015	Tour through industrial estates near Ayuthaya to discuss Hide's experiences of the 2011 flood and to witness the long term effect of the flood on the estates
Heinrich Böll Foundation Balcony talks	February 2016	Presentation given by Eliza Fornalé on the topic of climate change and displacement
Heinrich Böll Foundation Balcony talks	February 2016	Presentation given by Ms. Nancy Alexander on the topic of development aid
Workshop on Human-Nature Relation in South East Asia at Chulalongkorn University	February 2016	Conference with several South East Asian activists, academics, monks on traditional values and perspectives on regional human-nature relations
Conference on "Language as Peacemaker? Violence in the Deep South" (southern provinces of Thailand) at Institute of Security and International Studies (ISIS) Chulalongkorn University	November 2015	Several key speakers from international organisations, diplomatic missions and academics discussing the on-going violence in the country's southern states and the latest initiatives for peace building
Conference on Energy Security and environmental imperative at Institute of Security and International	October 2015	Presentations and debates on the role of environmental and livelihood protection along the planned hydro power facilities

Studies (ISIS) Chulalongkorn University		in the Mekong region.
Visit to Siam Museum	November 2015, February 2016	Several trips to the museum
Visit to Hua Lampong station Exhibition	February 2016	Photo exhibition in Bangkok's central station on the development of (terrestrial) public transport in the capital and country
Participation at Refugee Workshop	February 2016	International refugee youth workshop bringing together refugees and Thai youngsters to discuss experiences of being a refugee to raise awareness for the topic
Boat trip to floating market	January 2016	Touristic trip to the floating markets on the Western khlongs of the city
Boat trip through Thon Buri Side	January 2016	Touristic trip through the Western waterscape of the city
Boat trip via Sean Seab canal to outskirts	January 2016	Frequent trips with the Sean Seab Express to explore Eastern suburbs of the city
Refugee Workshop	November 2015	Workshop to provide information for new Somali refugees on how to survive Bangkok, prepare for status determination interviews and build networks for support