Mapping the More-than-Human City in Theory, Methods and Practice

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In the Anthropocene, our lifeworlds have become largely based around cities – places where now more than half of humanity live, work, play and eat (Gottlieb 2009). Cities both catalyse and suffer from escalating contemporary crises. The capacity of cities to respond to societal needs and disasters is encumbered in part by their relationship to a wider more-than-human world, encompassing multiple species (of animals, plants, microbes, viruses, and more) and 'non' or 'other-than' human elements, matters and processes (such as water, minerals, soil, sun and weather).

The rights, needs and desires of other-than-humans within the city are often trivialized by human inhabitants, and subsequently devalued, ignored or even vilified as they compete for space and resources. However, cities are not only home to multiple species but they are also co-composed by them, where increased proximity heightens both the frequency and intensity of encounters between human and nonhuman lifeforms, matter and phenomena. This interspecies interdependence extends to the human body that exists in exchange with micro-organisms (McFall-Ngai 2017). Hence, a shift to a more-than-human city considers how 'a range of forces and agents shape urban rhythms, spatial form, materiality, and consumption, not just for and in relation to humans, but for and in relation to themselves and each other' (Sharma 2021: n.p.). This concept stresses relationalities across humans and nonhumans, asking how one species, matter or phenomena impacts or influences another. Furthermore, by realigning humans as part of nature within the city, questions arise: Who and what are cities for? How can diverse natures

coexist in urban environments? How are nonhuman natures politicized, and how does this impact their governance?

In this book we argue that cities are highly relevant sites for exploring more-than-human relationships, resistance and struggles. Often located in species-rich areas (Luck 2007) but often also set apart from all things 'natural', cities are centres of transformative change where human and nonhuman clusters reveal new edges of tension, possibility and promise. Some argue that cities even represent 'evolutionary hotspots', unifying diverse spaces and species to catalyse new species and assemblages (Schilthuizen 2018). The definitions of nonhuman natures in the city are also being redrafted as the city becomes known as a 'novel ecosystem', challenging staid categorizations of misplaced natures like 'feral' and 'invasive', and instead recognizing their potential to coexist and flourish in cities (Davis 2019). Furthermore, we contend that this posthuman turn emerges at a pivotal time in human history, when the need for urban nature is greater than ever whilst entering global discourse in the call for 'green', 'resilient', 'nature-based' futures. We also advocate that a more-than-human transformation requires creative, innovative, democratic and interdisciplinary approaches.

While some scholars advance radical acknowledgement for convivial new states of human/nonhuman relations, others retain a historical, human-centric and utilitarian perspective, which envisions humans in cities as changing nature rather than embracing the agency of nature to change cities (and humans). Others again fail to recognize the unique, compressed and complex conditions of diverse urban environments. In contrast, our volume joins work by Bram Buscher and Robert Fletcher (2020) and Matthew Gandy and Sandra Jasper (2020) to take a fresh perspective to urban nature, questioning and disrupting assumptions in their many different forms and flows in and across the city. As we move towards more-than-human understandings, it becomes apparent that 'to dissolve the boundary between nature and culture is to radically remix the arts, humanities, and the social and natural sciences' (Gan 2019, n.p.). This changing ground welcomes a broad range of disciplines that offer alternative perspectives, approaches and methods. Here, we have chosen the intertwining perspectives of anthropology, geography, design and urban political ecology to explore how humans can 'make visible', (re)connect to and politicize urban natures. Anthropology provides a thick description of holistic contexts from which to analyse the more-than-human world, while geography considers relationships between space, place and identity in the city. Political ecology guides our inquiry into how power, reflected in institutional, moral and emotional dynamics, constantly shapes the limits of the (urban) community for

both humans and nonhumans. Finally, design translates these findings and concepts into concrete strategies of intervention, facilitating collective exploration and imagination, experimentation and implementation. From this base, this chapter introduces core more-than-human perspectives and approaches in theory, method and practice.

Mapping the Theory

An Anthropology of the More-than-Human

Traditionally, anthropology has engaged with 'nature' in numerous ways. Whilst the more-than-human turn was headlined by the coining of 'multispecies ethnography' by Eben Kirksey and Stefan Helmreich (2010), this approach has been influenced by a long succession of authors. In the early sixties, Henri Lévi-Strauss (1963) suggested that 'thinking with' animals could question human exceptionalism to expand human social and political worlds to include nonhuman beings (Feinberg, Nason and Sridharan 2013: 1). The need for greater consideration of a wider environment was emphasized by Tim Ingold, who sought to bring the 'backdrop' of the environment forward (Ingold 1988: 1).

However, a distinct pure anthropology trajectory is difficult to distil for this topic. From geography and political ecology, significant contributions include Noel Castree and Bruce Braun (2001), Sarah Whatmore (2002) and Nik Heynen, Maria Kaika and Erik Swyngedouw (2006), whose work contested the notion of an apolitical 'wild' nature to instead acknowledge 'nature' as 'hybrid entities, or socionatural assemblages' (Ogden, Hall and Tanita 2013: 12). Moreover, as noted, urban political ecology insists on the need to link the distribution of power with productive activity and ecological analysis (Robbins 2012). However, Anna Tsing (2013) suggested a 'more-than-human sociality' approach that would extend the study of the nonhuman to consider 'animate and inanimate, beings and things, but also entities that are less tangible, such as spirits' (Lien and Pálsson 2021: 4).

Fields of ecology and biology remind us that humans are one part of a larger urban ecosystem, and that urban rifts and anthropocentric views often guide and drive them (McClintock 2010; Pickett et al. 2016). Ecology introduces new paradigms such as 'recombinant ecology' (Barker 2000) that represents relational and connected communities 'assembled through the dense comings and goings of urban life' (Hinchliffe and Whatmore 2006: 123). Contributions from biology include Gregory Bateson (1972), who challenged human exceptionalism to later develop the concept of biosemiotics, and Jakob von Uexküll (2010), who intro-

duced the term '*umwelt*' to acknowledge the existence of specific non-human worlds.

This intellectual progression coincides with a changing understanding of what animals are (and are capable of), in turn, informing how we define being human. For example, are we human in our difference to 'nature' because we, as humans, possess culture – or because we work, think, speak, and/or have symbolic thoughts? All these presumptions were raised in earlier years to distinguish humans from 'nature', yet they have now been trumped by science (Lien and Pálsson 2021). Some argue that a shift in anthropology to a 'posthumanist approach helps us to better understand the human condition' (Smart and Smart 2017: 6).

While anthropology has historically noted 'nature' in its thick description of cultural studies, until recently humans remained firmly fixed at its core, persisting the assumption that 'humans alone . . . made and had "culture" (cf. Tylor 1994 [1871])' (Lien and Pálsson 2021: 4). Marianne Elisabeth Lien and Gisli Pálsson examine this rupture before and after the 'more-than-human' turn by revisiting the role of nature in its various forms in traditional ethnographic accounts. Here the affective dimension of fieldwork – a *sensing* of sorts – becomes apparent, where once recorded in notes, 'nature' does not often feature in subsequent theoretical developments. The work of Roland Barthes provides one such example, where Lien and Pálsson ask, 'But what became of the animals? What became of his affective relations with the material world? And what became of the poetry?' (2021: 3). In such classic accounts, they acknowledge how 'A singular focus on meaning, symbolism or utility (Willis 1990; Douglas 1966; Rappaport 1984) has often sidelined other relational practices' (ibid.).

The inclusion of this book within the new Urban Anthropology Unbound series will join others in ushering in a renewed perception of nature within anthropology. A more-than-human anthropology typically stresses the relational ties between people and a wider world, revealing new edges and terrains for ethics, power, conflict and identity. These vital relationships are rejuvenated by an 'attentiveness to nonhuman agency – stones, plants, birds, and bees have the power to transform the world in this work' (Ogden, Hall and Tanita 2013: 16).

Political theorist and philosopher Jane Bennett (2010) acknowledges the 'vital materiality' and political agency of nonhuman entities. Such human/nonhuman entanglements are often perceived as being in a state of 'becoming', where Donna Haraway acknowledges 'that becoming is always becoming with – in a contact zone where the outcome, where

who is in the world, is at stake' (Haraway 2008: 244). She recognizes 'how humans have coevolved with their "companion species" and co-constitute each other' (cited in Locke and Muenster 2015: n.p.).

The liveliness of nonhuman others both raises new ethics and gives rise to new political becomings. Ethically, it calls to 'make visible' nonhuman others in theory and practice (Buller 2016), whilst recognizing the need to establish an ethics of 'living with' the natural world (Kirksey and Helmreich 2010) – or, as expressed by Ogden, Hall and Tanita (2013), an anti-essentialist ethics that goes beyond merely extending moral consideration to nonhumans to instead reconsidering human-based classifications placed on other beings (Hache and Latour 2010). Such a perspective that both decentres the human and recognizes the coproduction and hybridity of others and ourselves serves to outline nuanced modes of being, involvement and responsibility, where different human–animal relationships can appear, such as those of mutuality, companionship and care (Lien and Pálsson 2021). Politically, this interrogates the creation of subjectivities, which are 'decisive to the operation of institutions as they are integrally bound up in social relations of power and the ways in which people understand their relationship to others, whether that be human or nonhuman others' (Nightingale 2011: 121). Ultimately, this book recognizes that a more-than-human politics must account for the 'performance of things and not just the actions of humans (Braun and Whatmore 2010: xx)' (cited in Ogden, Hall and Tanita 2013: 16), raising further questions of belonging, alienation, value creation, conflict and dominance (Feinberg, Nason and Sridharan 2013).

Anthropology is well geared to contribute to the development of more-than-human perspectives. Anthropologists seek to open up understandings that typically go beyond modernist European or Western conceptual frameworks, where anthropologists often act as 'translators' across cultures. Seeking a holistic perspective through the practice of ethnography – defined as a 'comprehensive approach to the human condition' (Otto and Bubandt 2010: 3) – anthropology is also well positioned to work with other disciplines to explore in rich detail 'the interconnectivity of animals–humans–environments, as well as highlighting the experiences of marginalized human and nonhuman groups' (Hovorka, McCubbin and Van Patter 2021: 3). The posthuman turn can deepen this holistic goal to 'meaningfully integrate the affective and the ecological, the individual and the relational, moving beyond anthropocentrism, speciesism, symbolism and utilitarian thinking' (Lien and Pálsson 2021: 16). The next section acknowledges another prominent discipline in the making of the more-than-human: geography.

Bringing Nature Back In

There has been a strong movement in human and animal geographies over the last three decades to 'bring nature back in' to the conceptualization of the human world. Henry Buller (2014) presents an excellent overview of this trajectory, detailing how a special issue – 'Bringing the Animals Back In', led by Jennifer Wolch and Jody Emmel (1995: 633) – argued 'for a new animal geography to go beyond taking animals as merely "signifiers" of human endeavour and meaning'. Others followed suit (Philo and Wolch 1998; Wolch and Emel 1998; Philo and Wilbert 2000; Urbanik 2012), emphasizing the need to not only acknowledge the agency of animals and nonhuman others but to show how agency is interpreted in time and place, focusing on the physical and conceptual places and spaces of human–nonhuman interactions.

Engaging interest from and engaging with diverse disciplines, such as the environmental humanities, politics and Science and Technology Studies (STS), this subfield has since emerged to become

> a porous, shifting and eclectic heterogeneity of ideas, practices, methodologies and associations within a more-than-human life/world: an 'emergent scholarly community' . . . , one in which animals matter individually and collectively, materially and semiotically, metaphorically and politically, rationally and affectively. (Buller 2014: 310)

These 'vital connections' (Whatmore 2006: 601) or 'lively biogeographies' (Lorimer 2010: 491) offer new ways and points of reflections for understanding our place, connection and responsibility to a wider world. With cities becoming the dominant sites for the human population, we next consider the 'urban turn' in more-than-human studies.

However, before we can explore the 'urban turn' to bring nature back *into* the city, a brief explanation is needed to understand why nonhuman nature – physically and symbolically – 'left' cities. Here we acknowledge a focus on Western cities and the colonialization of cities as a process, whereas such a human–nonhuman separation did not occur within Indigenous communities.

Up until the mid-1800s, European and American cities were full of working animals: horses were used for transport, machinery, and their manure for fuel; cows for milk, cheese and meat; pigs for meat and as eaters of urban trash, manure and dead animals; and chickens for eggs and meat (Blecha 2007; McShane and Tarr 2007; Brinkley and Vitiello 2014). Urban industries included fresh food markets, stables, piggeries, slaughterhouses and breweries – the remnants of which can still be seen today in building and street names.

The arrival of the City Beautiful movement in the late 1800s introduced a new urban ideal, desiring to remove distasteful and immoral behaviour, smells, noise and liquids (Donofrio 2007). Modernist separationist discourse from the Enlightenment period also underpinned this perspective, asserting a moral order that placed humans 'above' and 'outside' nature.

Urban natures became designated in broad terms as being either 'good' or 'bad'. 'Good' natures remained in the city, where a rise in aesthetics and romanticism in mid-eighteenth-century Europe embraced 'wild primeval' nature in stylized forms. Symbolizing controlled beauty, subdued natures entered homes as paintings of model gardens and as picture cases of pressed dead butterflies, beetles and spiders. 'Wildness' also became a source of nostalgia, affection, contemplation and inspiration, with prestigious creatures presented alive in zoos, aquariums and at circuses (Barber 1984; Cronon 1991).

Conversely, the designation of 'bad' natures prompted a 'discursive erasure of animals from mainstream imaginaries of the modern city' (Blecha 2007: 15). Selected species were recategorized according to their use or enjoyment value for humans, or instead declared to be a 'transgressed species', such as rats, cockroaches and pigeons (Atkins 2012). Urban zoning and policy reinforced these anthropocentric assertions (Brinkley and Vitiello 2014). Thus, through processes of purification and polarization, many 'undesirable' animal species were marginalized as 'problem' species, justifying their relocation (whenever possible) to rural regions (Wolch 2002; Braun 2005). Hence, 'place' perpetuates particular framings that guide assumptions and politics for the nonhuman 'other'.

From the mid- to late 1990s, calls to acknowledge the presence of nonhuman nature's presence in cities have arisen predominantly in critical animal studies and geography, revealing a series of 'nature turns'. This surge in popularity was fostered by earlier research in urban wildlife studies from the late 1960s and early 1970s (Adams 2005; Gehrt 2010; Magle et al. 2012) and Human–Animal Studies from the 1990s (Anderson 1997; Shapiro and DeMello 2010). Critical Animal Studies emerged in the 1990s, transforming into Critical Animal Geographies soon after, with one outcome being a focus on urban human–animal relationships (Wolch and Emel 1995; Philo and Wolch 1998; Philo and Wilbert 2000; Buller 2016). This subsequent urban animal turn (prominent in animal geographies, and extending to include nonhuman natures more generally in recent years) has called for the modernist boundaries between city/country, culture/nature and wild/civilized to be overcome, allowing new perspectives to raise questions about who and what the city is for,

and how it should be defined. As such, cities are becoming reconceptualized as more-than-human places that necessitate recognition of species' agency, innate values and ethics – outside of the human-dominated frame.

A range of concepts are growing that seek to disrupt traditional perceptions of the city and who it is for. Concepts of dwelling and *umwelt* are both on point for placing nature in the city. 'Dwelling' refers to 'an immediate, enduring and relational process of being-in the world' (Ingold 2000; Jones 2009). These degrees of approaching closeness across species, which are further accelerated in the urban environment, are expressed by Deborah Bird Rose (2009: 87) as the 'situated connectivities that bind us into multispecies communities'. The act of 'untaming' is another popular approach. Adriana Allen, Andrea Lampis and Mark Swilling argue for 'the act of untaming as forms of producing the urban that are rarely acknowledged or recognized as productive pathways to rethink what makes and could make cities conduits of social and environmental justice' (Allen, Lampis and Swilling 2016: 2; also see Preface).

Cyborg urbanization also emerges as a useful concept to explore human–nature–city relations (White, Rudy and Gareau 2016: 153). The authors Erik Swyngedouw (1996) and Matthew Gandy (2005) were among the first to underline the interconnections among apparently separate domains. As Nik Heynen, Maria Kaika and Erik Swyngedouw (2006: 11) point out, '[t]he urban world is a cyborg world, part natural/part social, part technical/part cultural, but with no clear boundaries, centres or margins'. This means that urban metabolisms and flows are discursively constructed, and cannot be separated from the choreographies of power and political projects (Kaika 2005).

Decolonialization too provides a useful frame for analysis. Decolonizing nature within the settler-city seeks to recognize the uneven power flows that underpin the distribution, framing and management of nature – a prominent theme in this book (see chapters 4, 6, 7, 10, 16). While settler-colonial relations may not appear immediately obvious, Sarah de Leeuw and Sarah Hunt recognized that 'the complex and interdigitated nature of globalization and neoliberalism mean that profits and accumulations drawn from settler-colonial geographies implicate people and places beyond specific state borders' (de Leeuw and Hunt 2018: 2). Nathan McClintock provides the example of urban agriculture – a popular pastime that often proclaims good intentions yet can either extend domination or symbolize resistance. He notes how urban gardens have 'played an important role in delimiting race and space' (McClintock 2018: 5), requiring an openness to deconstruct their history and claim to place.

Finally, the question of who the city is for has long concerned urban geographers, political ecologists and planners. They draw out the processes of exclusion and marginalization generated by the urbanization of nature, also known as green gentrification: intentionally or not, bringing more nature into the city can create 'enclaves of environmental privilege when low-income and minority residents are excluded from the neighbourhoods where new green space is created' (Anguelovski, Connolly and Brand 2018: 10).

Sensing and Living the More-than-Human City

Once relegated to the realm of the private or demonized as expressions of the 'unreasonable' or 'irrational' (Velicu 2015), senses and emotions have gradually become a vital part of the conversation on human–nature relations. So much so that, for instance, Farhana Sultana (2015) talked about an 'emotional turn' in political ecology (see also González-Hidalgo and Zografos 2020), and a growing number of theorists are now acknowledging the emotional toll of the Anthropocene: the study of emotions such as distress, anxiety and grief in relation to forecasts of environmental doom has gained increased scholarly salience. Present and expected extinctions of both human and nonhuman life (van Dooren 2016), caused by climate change, unhinged extractivism, pandemics and ubiquitous injustice, have an impact on the way we live and sense the city. Indeed, as we hear climate change reports and their predictions for the future of Earth, many of us may feel a sense of déjà vu regarding the sad outcome to this story (Head 2016; Richardson 2018). This sickening feeling resonates with what Ann Kaplan (2016) calls 'pre-trauma' – the traumatic imagining of catastrophe to come – which functions like a sort of 'memory of the future' (Kaplan 2016, cited by Richardson 2018: 2). Several chapters in this book document experiences of trauma and loss produced by socio-natural urban malaises. This sense of dread is sometimes made visible in the shape of rituals of grief and memorialization (Chapter 16), emotional bursts and tensions with regards to how nature is 'managed' in the city (Chapter 18), and as acts of frustration and resistance (Chapter 17).

How do cities matter in this context? The concept of 'solastalgia' anchors the diffuse sense of end of the world in concrete sites: scholars have identified elements of grief in the loss or change of loved places, and the disruption of life patterns, with climate change transforming the geographical, human and more-than-human components of urban sites (Farbotko and McGregor 2010; Cunsolo 2012; Galway et al. 2019). Cities become such places of grief as the urban denizens are directly af-

fected by the rise of the sea in coastal towns, by raging fires and by water scarcities. They are also at the receiving end of indirect effects of the environmental crisis, as planning fixes may create unwanted consequences: gentrification, displacement, homelessness, conflicts, and the erasure of local identities (Robbins 2012; Anguelovski, Connolly and Brand 2018).

The effects are dire on both the individual and the community:

> Collective trauma is a blow to the basic tissues of social life; [it] damages the bonds attaching people together and impairs the prevailing sense of communality. . . . [I]t is a form of shock . . . a gradual realization that the community no longer exists as an effective source of support, and that an important part of the self has disappeared. 'I' continues to exist though damaged, and maybe even permanently changed. (Erikson 1976, 153–54; quoted in Velicu 2022)

Yet, 'end-of-the world' discourses are not without criticism. For instance, Erik Swyngedouw denounced that apocalyptic imaginaries about the environment are depoliticizing. As an integral part of the cultural politics of capitalism, these narratives manage to 'create a consensual setting where environmental problems are generally staged as universally threatening to the survival of humankind, announcing the premature termination of civilization as we know it' (Swyngedouw 2010: 217). 'It's a catastrophe, relax!' says the physicist ironically, in Ian McEwan's novel *Solar* (quoted in Velicu 2022).

However, this post-political argument may be obscuring innumerable instances where nature is mobilized politically in collective actions for instituting disruptive ways of being together in the city. According to Lesley Head, hope can be traced back to *practices* rather than particular emotions. The depoliticizing effect of apocalyptic dread on the one side, and the blind faith of technocratic optimism on the other (see Habermas 2015), can be compensated if hope is kindled in 'localised, vernacular understandings and practices . . . indigenous engagements, gardens, suburbs, farms, domestic homes' (Head 2016: 24). In this sense, hope 'savours the life and world we have, not the world as we wish it to be' (ibid.: 21). Importantly, in the face of depoliticized imaginaries, hope is interpretable as a fundamentally political stance. To use Jacques Rancière and his followers (see Velicu 2015), the 'return of the political' means the disruption of the established 'partitioning of sensible' (the dominant, what is acceptable to our senses) and the enunciation of the principle of equality by 'those who have no part', those marginalized (Rancière 1999). This book documents several such occurrences of hope. Fragile and incomplete as they are, the alternative practices of being with nature in the city hold the potential to interrupt the dominant apoca-

lyptic imaginary (see, for instance, the chapters by McKenzie and Stein; Ojani; Popartan et al.), while 'unveiling the contradictory/ambiguity of selves/identities as sites of social transformation' (Velicu 2015: 847). One such frame that disrupts conventional tropes and is particularly pertinent for human/nonhuman relations is that of 'care'.

Emphasis on care and kinship in the context of relationality, interdependence and co-constitution that entangles human and nonhuman worlds is core to Indigenous scholarship and ontologies (Bawaka Country et al. 2019; Tynan 2021). Bawaka Country et al. explain that when humans care for Country and Country cares for them, it is in both cases not about caring for something separate. Rather, it is a process of co-constitution, co-becoming and caring *as* Country. For 'Western' practices and techno-cultures, such understandings clearly represent a break. In the words of Donna Haraway: 'Technocultural people must study how to live in actual places, cultivate practices of care, and risk ongoing face-to-face encounters with unexpected partners' (Haraway 2011: 9). *Presence* in Country is needed for it to flourish; not perfection but ongoing, effective care.

Care, often devalued in capitalist, neoliberal societies (Fisher and Tronto 1990) is considered important for thinking and living in interdependent, more-than-human worlds (see Puig de la Bellacasa 2012, 2017). In recent years, care has been explored in many different contexts, including the urban. Maria Puig de la Bellacasa points out that care per se is a relational concept, and it contributes to the subsistence of living beings in more-than-human entanglements. She underlines this by pointing to Joan Fisher and Berenice Tronto's much-cited definition of care: '[A] species activity that includes everything that we do to maintain, continue, and repair our "world" so that we can live in it as well as possible. That world includes our bodies, ourselves, and our environment, all of which we seek to interweave in a complex, life-sustaining web' (Fisher and Tronto 1990: 40, in Tronto 1995). As Puig de la Bellacasa (2012, 2017) shows, however, when exploring the implications of thinking with care, these are ambivalent terrains, impure and fraught with tensions.

The emphasis on ongoing processes of care can also be seen in examples of conceptions of care in the context of cities. Ash Amin, for example, outlines the elements of an urban ethic for the good city, formulating an ethics of care based on the four registers of urban solidarity: 'repair', 'relatedness', 'rights' and 're-enchantment' (Amin 2006). Wendy Steele builds on these by decentring humans to address the urban greening agenda and how it tends to reproduce dualistic understandings of natural and built space by framing nature as a mode of urban purification. In turn, envisioning cities as modes of human belonging in more-than-human worlds can be transformative, as we see them not by placing the

focus on 'the profitable sanitising of technology by nature, but as spaces of dirty more-than-human care and solidarity' (Steele 2020: 245).

Hence returning nonhuman natures to cities – both physically and symbolically – requires a complex (re)thinking, (re)sensing and (re)living of who and what cities are for. Rather than assume that one or a few approaches should dominate, abundant narratives are required to de-colonialize current perceptions of how to express ways of knowing the world (de Leeuw and Hunt 2018). The next section explores methods towards knowing the more-than-human.

Mapping More-than-Human Methods

More-than-human approaches must go beyond the limits of human as-sumptions, needs and desires as far as possible to comprehend the many worlds of nonhuman others. To study these relationships, new tools and strategies with which to better understand nonhuman worlds in an eth-ical way must be developed.

Returning to anthropology, multispecies ethnography offers one such approach. Coined by Eben Kirksey and Stefan Helmreich in 2010, mul-tispecies ethnography seeks to acknowledge the 'interconnectedness and inseparability of humans and other life forms' (Locke and Muenster 2015: n.p.). Multispecies ethnography departs from the epistemologies of biological anthropology to consider emergent relationships between human and nonhuman encounters, producing diverse entanglements at times described as mutual ecologies, coproduced niches, new genetic technologies and symbiopolitics. Furthermore, as Eduardo Kohn asserts, multispecies ethnography 'should not just be to give voice, agency or subjectivity to the nonhuman – to recognize them as others, visible in their difference – but to force us to radically rethink these categories of our analysis as they pertain to all beings' (cited in Kirksey and Helm-reich 2010: 562–63). Hence, by making them visible, scholars are also repoliticizing urban natures, welcoming them back as equal players in the shared city.

In addition to applying ethnographic techniques to understand non-human others, anthropologists are mimicking human-centric multi-sited approaches to instead follow 'genes, cells, and organisms across land-scapes and seascapes' (Kirksey and Helmreich 2010: 556). These ap-proaches often also embrace affective and sensorial elements in their attempts to bridge human/nonhuman worlds – both in correspondence to the affective states of the nonhuman other and through the anthropol-ogist's self-reflection on their affective experiences (Latimer and Miele

2013). For example, Ferne Edwards (2021) describes how the senses can inspire, engage and educate beekeepers in a reciprocal process as they tend to their hives, while beekeepers are able to convey beekeeping knowledge to others through embodied learning, such as through mentorship. However, problems of translation and representation persist in interspecies research, prompting questions: How can anthropologists learn from other disciplines to understand and speak for nonhuman others? What new insights and understandings of diverse nonhuman natures can be revealed through inter- and transdisciplinary approaches?

Other disciplines are also thinking urban nature differently. In landscape architecture, 'environmental stewardship' seeks to foster mutually beneficial interactions. Science and Technology Studies (STS) perspectives such as actor-network theory have stimulated new ways of approaching relations to nonhumans, from landscapes to technologies (Whatmore 2006; Forlano 2017). Others, such as Heather Paxson and Stefan Helmreich (2013), have taken a 'microbial turn' to explore more-than-human health relations.

Efforts to decentre humans, bridge worlds and broaden participation can be seen across design-related fields, under different headings. Weisser and Hauck (2017) propose Animal Aided Design (AAD) as an approach to the design of open urban spaces, as it integrates conservation into planning and makes planning inclusive of animals. Within animal-computer interaction, scholars place animals at the centre of iterative development processes, as users and design contributors (Mancini 2013). Researchers working on design and evaluation are, for example, encouraged to go beyond ethnomethodology to explore sense-making mechanisms, or to support multispecies ecologies by 'designing with' other species (Mancini et al. 2012; Mancini 2013). Focusing on other species' needs and rights does not necessarily address ecosystem interdependencies but can help to move beyond human-centredness (Clarke et al. 2019). Emerging design research further disrupts binaries and decentres humans. Scholars engage with posthumanist or more-than-human approaches to tackle environmental issues and socio-technical systems transformation, or with decolonial theory to address issues of equality and justice (Forlano 2017). Focusing on relations to dynamic technologies, Giaccardi and Redström (2019) argue, for example, that more-than-human design implies a shift from human-centredness, distinctions between design and use and a focus on ensuring the best outcomes possible, to continuous negotiation and cultivation of multiple relations, perspectives and responses in dynamic interplays between humans and nonhumans; a shift from a concern with what should be to what might become. In the context of participatory design and neigh-

bouring fields, emerging research explores topics ranging from how non-humans participate to co-creation with ecosystems, interspecies design and multispecies place-making based on artistic methods (Rice 2017; Pettersen, Geirbo and Johnsrud 2018; Clarke et al. 2019; Roudavski 2021; Olsen 2022).

STS provides innovative and experimental enactments of techno-logical natureculture hybrids, whereas more-than-human participatory research seeks 'to support the inclusion of marginalised actors and to make research accountable to those it affects' (Bastian et al. 2017: 5).

Cross-/interdisciplinary approaches – such as those that combine an-thropology, environmental humanities and bioartists – provide illumi-nating, species-shifting food for thought. For example, the multispecies salon, an exhibition held for several years at the American Anthropology Association, juxtapositioned the agency, beauty, danger and complexities that lie between human and nonhuman entanglements (Kirksey 2014). Recognizing the power of visuality and other senses to convey emotional connection and alternative ways of thinking, one chapter in each book part (chapters 3, 7 and 13) explores urban nature by taking a visual and/or narrative form. Similarly, contributors span from anthropology to disciplines of art, architecture, urban planning, design, engineering, philosophy and geography. These inter-/transdisciplinary approaches are evermore needed when putting human/nonhuman learnings into policy and practice.

We hope by showcasing, describing and reminding others about such possible actions that greater care and conservation practices can be gal-vanized to overcome the extinction of experience (Schuttler et al. 2018; Soga and Gaston 2016). Urban centres – where we can learn to see na-ture once more all around us – are ideal places to (re)connect, care and act with such other worlds.

From Theory to Practice

In recent years, the enrolment of 'Nature' in urban sustainability policies has reached unprecedented levels, driven by the doxa of green, resil-ient and smart cities (Connolly 2019). The ecomodernist discourse on 'win–win solutions', bridging environmentalism and economic growth, is the orthodoxy of our days (Anguelovski and Martinez Alier 2014). Therefore, the map of practices in urban sustainability would be mostly occupied by 'system-affirming tools' fuelled by the neoliberal growth imperative (Kotsila et al. 2020). The concept of Nature-based Solu-tions (NBS) is a case in point, as it currently dominates environmental

discourse in cities, especially in the Global North. This shift in European Union policy vocabulary from terms such as 'green infrastructure' and 'ecosystem-based assessments' to NBS reflects interest in achieving 'co-benefits' for both people and nature in cities (Raymond et al. 2017). This shift aligns with the conceptual framework adopted by the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES), which has a considerable focus on 'nature's contributions to people' (Castellar et al. 2021). The notion has gained extraordinary popularity amongst environmental scholars and practitioners, incentivized by extraordinary European funding: in 2021 the European Commission calculated that its Horizon 2020 research and innovation programme had invested 292 million euros in NBS projects.

The concept of NBS was first used as a policy instrument by scientifically oriented non-governmental and finance organizations such as the International Union for the Conservation of Nature and the World Bank (Cohen-Shacham, Walters and Janzen 2016; Faivre et al. 2017). It is an all-encompassing term that frames debates and proposals on climate change adaptation and mitigation, sustainable resource use, biodiversity conservation, and circular economy in cities (Frantzeskaki 2019; Stefanakis, Calheiros and Nikolaou 2021; Castellar et al. 2021). From small-scale interventions such as green walls, to large-scale interventions such as the creation of artificial urban ecosystems, NBS are the latest environmental 'silver bullet' that can 'simultaneously provide environmental, social and economic benefits' (European Commission 2022). From a more-than-human perspective, this current fetishization of NBS is problematic for its unapologetic anthropocentrism. The concept is mainly focused on outcomes and benefits for humans, dismissing the nonhuman species and ecosystems that might be affected, 'no matter how minimal or invisible they may be perceived to be' (Maller 2021: 2).

The accent falls on nature's traits and services, obscuring the value of non-replicable human–nature interactions: trees and greenery are treated solely as 'physical' elements that can be managed and moved around, and that offer 'advantages' such as carbon dioxide capture, flood regulation and heat relief. In turn, 'situated socio-natural systems – such as the irreplaceable memories and associations with a specific tree in a specific space – are often erased or deemed irrelevant' (Kotsila 2020: n.p.). Moreover, even as NBS discourse is littered with references to 'co-creation' and 'co-design', the participatory enthusiasm does not extend to nonhuman 'stakeholders', thus ignoring increasing knowledge about interconnection and dependencies between humans and other life forms (Atkins 2012; Narayanan 2017; Maller 2021).

From a political ecology perspective, NBS are also a target of critique, as 'selling nature to save it' (McAfee 1999) remains the leitmotif of mainstream nature-based practices in our cities, furthering the neoliberal agenda, while suppressing conflicts and dissent (Swyngedouw 2014). In this sense, NBS offer yet another idealized vision of 'nature' to replace genuinely emancipatory political issues, thereby evacuating the political from the public arena. Instead of addressing the inequalities and injustices produced by global (neo)liberal capitalism, political energies are channelled into technomanagerial solutions to environmental problems (Swyngedouw 2014; Woroniecki et al. 2020). The overwhelming positive discourse around the benefits and co-benefits of NBS as a cost-effective instrument sidelines unintended consequences such as green gentrification followed by an amplification of inequality, displacement and loss of habitat (Anguelovski, Connolly and Brand 2018; Sekulova and Anguelovski 2017).

The only way out of this impasse lies in the power of the imagination to construct 'radical . . . spatio-temporal utopias' and 'demanding the impossible' (Swyngedouw 2011: 273). For instance, Rachel Clarke et al. 'demand the impossible' by advocating for a more-than-human participatory approach in design that challenges the 'technologically driven, human-centred, and solution-optimizing' smart cities approach to solving environmental problems (Clarke et al. 2019: 60). They propose an exploration of more-than-human temporalities and alternative wisdoms, including Indigenous epistemologies and ontologies, and development of pedagogics and curricula that nurture skills in alliance and partnership-building with more-than-human worlds. Elsewhere, the Barcelona Lab for Environmental Justice documents urban projects that follow environmental justice principles, and help planners to implement new green spaces in ways that 'benefit rather than displace local residents' (BCNUEJ 2021).

This book itself offers a glimpse of concrete utopias and variegated alternative practices that challenge established discourses and manage to politicize nature. They capture human/nonhuman entanglements, tensions and conflicts, while acknowledging their dilemmas, contradictions and complex assemblages. Below we offer an overview of this vision.

An Overview of the Book Sections

Part I: Making Visible Diverse Urban Natures

Abundant diverse natures often go largely unnoticed in the city or are managed, contained, restrained and even vilified through regulatory,

conceptual and infrastructural devices (Philo 1995; Philo and Wilbert 2000; Brinkley and Vitiello 2014). There is increasing demand for recognition that many types of nature – including the 'untamed' – exist, can add value, and have a right to the city. Furthermore, as cities are continually changing due to increasing pressures, such as climate change, consumption and densification, where the arrival of new species, in turn, catalyses new human/nonhuman relationships, needs, benefits and conflicts (Schilthuizen 2018).

Part I recognizes the presence of diverse nonhumans and more-than-humans that pervade, influence and integrate within human-centric cities, 'making visible' calls for the need to look beyond dualisms and stagnant categories of 'good' and 'bad' natures in order to recognize the existence of diverse natures. By calling for urban more-than-human worlds to be 'made visible', this part acknowledges their presence and exposes the reasons why such natures may remain ignored, demonized and misunderstood.

The chapters in Part I 'make visible' urban natures in a variety of ways. Nick Dunn (Chapter 1) engages with temporality to explore multispecies life in the nocturnal city. He applies nightwalking to comprehend the multisensory qualities of urban nature, seeking to contribute to urban design by better encompassing the realities of nocturnal urban natures.

Noting that 'to make visible' is a popular call across urban nature scholars, Ferne Edwards (Chapter 2) questions how 'making visible' can or should be done. From interviews with map makers and organizers of eco festivals and citizen science events through to examining the outcomes from her self-organized nature walks with students, Edwards takes as her muse the insect to draw out key reflections on how best to reveal, remind and reconnect people to nature in cities.

Hannah Cowan and Sam Knight (Chapter 3) explore boundaries, borders, edgelands and in-between spaces as they journey out of the city during the pandemic. In their travels, they sense nature differently through shifting proximities to, within and from urban space. Their experience raises questions of safety and security, distribution and access. For them, 'nature' both remains in and surrounds the city, represented by rolling hills and landmarks that have been shaped by a long cultural history left to go wild, whereas pastoral plains are continually manicured by both human and nonhuman forces, such as sheep and cows. By trespassing hemmed spaces, Cowan and Knight recognize how 'cities are so often focused inwards'; instead, they seek 'towards reorientating cities to look out to the peripheries, to make safer spaces for humans/nonhumans alike'.

Chima Anyadike-Danes (Chapter 4) explores how members of the Mongolian community assert their right in Los Angeles by forming unlikely relationships with nonhuman beings; the bed bug and the California grizzly. By making visible human/nonhuman relations, other hidden human conditions are revealed and bestowed, namely citizens' rights and territory in the settler-colonial city.

Clare Qualmann and Amy Vogel (Chapter 5) discuss how through urban foraging tours (called 'East End Jam') as a social practice artwork they make visible the edible abundance of London's urban environment. Through East End Jam, participants can learn how to use local resources differently whilst 'tasting' their neighbourhood, producing outcomes for nature interaction, communal knowledge production and sustenance. Furthermore, such embodied and guided practice connects to political strategies to (re)claim public and other urban spaces.

Lisa de Kleyn, Brian Coffey and Judy Bush (Chapter 6) take a collaborative autoethnographic approach to question how the positionality of researchers influences research outcomes, and ask how a reflexive approach could contribute to urban natures research practice. To achieve this aim, they make visible the frames of enquiry by presenting a narrative based in a specific place to reveal influences of their understanding of nature. Their analysis demonstrates diverse ways of knowing, and how each approach can reveal or challenge assumptions.

Hence urban natures can be made visible in a variety of ways: by expanding the day to engage with nature at different times, as unique and shared experiences, through embodiment and the senses, and through reflection to question what perspectives of nature may emerge.

Part II: (Re)Connecting Urban Natures

This part explores the need to (re)connect and (re)centre 'human–nature' relations in cities; to move beyond binaries dominant in much thinking, writing and practice, and in turn to guide different ways of living in and governing cities. The need to (re)connect with 'nature' is becoming increasingly important in times of climate change and biodiversity loss. Relational perspectives recognize the interconnections between human and nonhuman actors and the specific contexts they inhabit and create.

Connection, coexistence and care are themes that run through the chapters in Part II. In these contributions, the authors re-centre human–nature relations to 'think with', 'become with' and 'design with' nonhuman others. Doing so allows them to explore the potential in more-than-human or multispecies coexistence, but also to address troublesome sides of such encounters.

In a layered account of her own personal and artistic development, Tracey Benson (Chapter 7) explores relations to place through stories of connection, engaging with topics such as personal identity, Australian colonial history and belonging. Benson shows how active, lived experience – walking, listening deeply, and noticing the connections that are there – can make it possible to break with dominant narratives and binary understandings, and thus to reconnect, live and act with care and respect.

Monique Wing and Emma Sharp (Chapter 8) take soil and composting as their topic. They draw on neo-materialist theory that decentres and reframes humans as co-producers. Composting then becomes an entry point to explore more-than-human entanglements and interdependencies, and the co-flourishing that reimagining composting can open up. They do this guided by questions about the values associated with compost and doing composting. Examples from individuals involved in community composting in Auckland, Aotearoa New Zealand, demonstrate that it can contribute to the understandings and embodiment of circularity and interconnectedness.

In Chapter 9, Jan van Duppen turns to community gardens in London, exploring the ambivalence of care but also the possibilities for reconnecting through play. Here, van Duppen presents an ethnographic study of relations between urban gardeners and urban foxes, involving medication, feeding and play. Through these stories, the author shows the ambivalent and contested nature of interspecies encounters and interactions of 'becoming with' foxes. The chapter illustrates how these interactions are negotiated and can disrupt binary understandings as contradictions and tensions may arise – for instance, between gardening work, care and play.

Drawing on personal experiences and creative practices as a way of reconnecting to place, Dominique Chen (Chapter 10) addresses the underresearched topic of Indigenous peoples' relations to place in urban environments. This chapter is thus not so much about 'reconnecting' as about 're-emplacing' already relational practices. Chen explores how Aboriginal agricultural practices can be reimagined and revitalized in Australian cities and allow practitioners to reconnect with Country, away from their ancestors' homelands. This is done by drawing on two practice-led case studies with examples of creative relational practices and their potential, focusing on the topics of bushfood and bushfood knowledges. Here, relationality is important in different ways: it highlights the embodied, generative, dynamic and multi-modal aspects of culture, learning, sharing, and reconnecting to Country, and how that can be possible even in urban spaces dominated by colonial history.

Care, belonging and related paradoxes are also themes in Jeannine-Madeleine Fischer's chapter (Chapter 11), which clearly illustrates how ethics and politics are always interwoven in care, and in judgements of what constitutes good care (see Puig de la Bellacasa 2017). Through ethnographic field research on unwanted urban nature – weeds and weeding in Auckland, Aotearoa New Zealand – she looks at how people can 'care' for nature in problematic or damaging ways, and how weeding practices relate to both colonial history and contemporary discussions about human migration and belonging to the city.

In the final chapter of Part II, Jolein Bergers, Bruno Notteboom and Viviana d'Auria (Chapter 12) take more-than-human understandings and approaches out of research settings and into real-life urban planning and design. They do that by focusing on the urban transformation area Friche Josaphat in Brussels, Belgium, where plans are criticized by citizen movements for destruction of nonhuman habitats. Here, the authors seek to bridge the gap between citizen collectives' situated knowledges about wild bees, and the expert knowledges of public administrations. They experiment with innovative more-than-human urban design approaches that allow for tracing, articulating and mobilizing wild bee knowledges in urban planning and design.

Part III: Politicizing Urban Natures

This part takes its cue from political ecology to recognize that human–nature (re)integrations may catalyse human–nonhuman and human–human conflicts; while some may lead to new beginnings, others may reveal the impossibility of founding or healing political communities on the remains of injustice. The section interrogates where power lies, and how relations of power and domination affect outcomes for creating convivial and just multispecies cities. Where is the political in the more-than-human city? How is it construed, imagined and supressed? The chapters navigate across different imagined natures – disciplined, emancipatory, utopian, pure, invasive – seeking to ground theoretical perspectives in the reality of the concrete attempts to bring nature back within urban centres. The ambition of this part is to consolidate the engagement between political ecology and more-than-human literatures.

Part III opens with an image-based chapter by Andrew MacKenzie and Ginny Stein (Chapter 13), who take us to the wreckages of the COVID-19 pandemic in Vanuatu. As the pandemic crippled the tourism-dependent economy, many Ni Vanuatu (the vernacular name for indigenous citizens) living in the capital, Port Vila, were left unemployed. For those who could not return to the rural areas, gardening became a necessary survival

strategy. This chapter combines aerial images of disciplined natures with close-up shots of local vegetable markets to convey the dynamic interactions and tensions between those who organize urban natures through legal tenure and those ordinary practitioners who, through their own spatial tactics, opportunistically shape urban nature, particularly during disaster.

Urban gardening is also the subject matter of the next chapter (Chapter 14) by Lucia Alexandra Popartan et al., narrating the creation of an 'edible neighbourhood', Menja't Sant Narcís, in Girona, Spain. It is a very different story, where gardening is recuperated for a white, middle-class neighbourhood, split between neoliberal utopias of the municipal state and the desire of local activists to create new urban commons. The authors discern the tensions between groups and actors, and how (current and historical) 'imagined communities' shape the evolution of the project. The chapter documents the difficult task of creating and taking care of the commons, trapped between idealistic pursuits and inherent exclusionary dynamics, and between commoning and un-commoning.

Chakad Ojani's chapter (Chapter 15) illuminates another facet of the entanglement between imagined natures and imagined communities. He shows how in Lima the fog oasis conservation movement paints the city's poor occupying the outskirts of the city as 'invasive' and ecological threats. This way, they reproduce deep-seated imaginaries about informal urbanization. The chapter constitutes a call for the 'return of the political' in urban nature preservation by considering social asymmetries in these analyses.

The policies and representations of nature-based urban development is the focus of Mariya Shcheglovitova and JH Pitas and their case study in Baltimore, Maryland (Chapter 16). There, sustainability agencies claim that greening is a step towards righting the effects of past racist housing measures such as 'mortgage redlining', which was the practice of denying home loans to applicants based on their race. This attempt to employ nature to heal past trauma is not welcomed by black residents, who remain 'haunted' by legacies of injustice. Greening as a resolution to racial injustice pursues a vision of an 'equitable and just city', but in fact cannot escape a white spatial imaginary. The authors propose the concept of 'haunted urban natures', which reveals how past entanglements between public space, urban nature and white supremacy still loom as spectres in places where these struggles unfold.

The last two chapters of Part III also look at how urban nature, specifically urban trees, can represent a source of conflict between different views and practices involved in urban design and planning. Are trees

a mere furniture, or do they have the right to exist, move and expand within cityscapes? Who decides – and according to which imaginaries and hierarchies of (human) concerns – if and how trees are to be planted, moved or uprooted? In Mathilda Rosengren's chapter (Chapter 17), the transplanting of Gothenburg's mature urban trees presents a situated example of how to begin to interrogate such philosophical and conceptual propositions of multispecies cohabitation. She reveals how an urban nature intervention can become an event of political subjectification for those involved, whereby a more-than-human urban politics can emerge, predicated upon continuous multispecies negotiations. In turn, Hanne Cecilie Geirbo and Ida Nilstad Pettersen (Chapter 18) employ drawing as methodology to explore the politics of street trees within and across social practices, inviting practitioners to represent their profession through sketches. Drawing thus becomes a way of capturing the very different imaginaries of the urban held by planners, engineers and architects, but also a way of engaging stakeholders, negotiating conflicts and reimagining urban spaces.

Our Aims

This book applies three distinct yet overlapping lenses – making visible, (re)connecting and politicizing – to investigate how existing nonhuman natures can be 'seen' and 'sensed', to determine what strategies of (re)connection can be established and maintained to care for them, and to reveal the political frames governing urban natures that may hinder their expression. While based in anthropology, this volume welcomes perspectives and approaches from other disciplines to open up, experiment and ground such inquiry. Importantly, the book takes a step towards closing the gap between political ecology and more-than-human geographies, following the call for 'a more-than-human urban political ecology' (Tzaninis et al. 2021: 232), to explore the intersection between urbanization and nonhuman nature (see also Connolly 2019: 2; Gandy 2021).

We, the editors, see the more-than-human city as relational, political, diverse and shared. Moreover, it has potential to be convivial, and 'not just to exist in the same time and space but actively and conceptually [to] cohabit, interact and engage with other species as part of the practice of everyday life' (Untaming the Urban 2016: n.p.; Hinchliffe and Whatmore 2006). The direction that cities, human and nonhuman natures will take – towards or away from conflict or peace, homogeneity or diversity, greater human dominance or decolonization – remains unclear.

We argue that a critical approach needs to be applied to examine urban greening histories, politics, discourses and ecologies to sharpen their approach, and to specify where improvements can be made.

Conclusion

This Introduction has outlined the story of both the disappearance and potential reappearance of nonhuman natures in cities. The city, in its many forms, represents a key site in which human/nonhuman relations are increasingly compressed, producing tensions and disruptions. However, cities also offer excellent sites in which to lead and demonstrate alternatives for human/nonhuman coexistence. In this book, we argue that nonhuman natures must first be 'seen' and 'sensed' to next consider diverse strategies for (re)engagement. Importantly, we argue that this process of bringing nature(s) in and out the realm of the senses, while constantly opening and suturing its meanings, is an essentially political process. This Introduction has mapped the landscapes of more-than-human theory to unpack the understandings of 'living with' other natures, to also consider the affective impacts from grief and loss, where humans are grieving the potential lost opportunity to connect with a wider world. An overview of diverse, innovative and experimental methods has been presented in response to the need for numerous narratives to displace dominant discourses. We have then interrogated the application of theoretical knowledge to the real world, to go beyond assumptions to question who benefits, how and why; and we have ended by providing an overview of the book sections, depicting diverse approaches, city-scapes and, of course, natures. We hope this array of case studies adds to an increasing body of literature to provide inspiring insights for how we can live better with nonhuman nature in cities.

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