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Deciphering posthumanism: Why and how it matters to urban planning in the Anthropocene

Ihnji Jon, Cardiff University

Abstract

This article responds to the call for planning theorists to develop a posthumanist approach to planning, especially in the context of the Anthropocene or planetary environmental degradation. In the wake of often unexpected and brutal feedback from nature – frequent flooding, heat waves, tornadoes or cyclones – the positioning or conceptualisation of 'the environment' in planning has changed; rather than being discounted as an inanimate background that merely hosts human affairs, it is now considered an active agent that influences how we design and plan for a city. The posthumanist framing of the planning agenda is closely related to the previous 'material turn' in planning, which initially introduced 'distributive agency', where human agency or our willingness to act is activated only via our relation with non-human surroundings. 'More-than-human' approaches to planning, inspired by the new ecology movement that debunks the idea of human exceptionalism, attempt to extend that logic even further by proclaiming how we can critically reframe planning to develop more inclusive and ethical relationships with non-human species. As a continuation of this dialogue, I provide the philosophical background behind the recent rise of posthumanist or 'new materialist' ecopolitics and argue why and how they can offer important insights for planning theory and practice. I lay out specifically how planners would execute this 'posthumanist normativity' in their everyday planning practices, focusing on three lessons that could be directly applicable: (1) understanding environment politics as a mundane politics of representation – which eventually allows us to consider non-human species as social minorities, (2) learning to 'stay with the trouble' –

recognising the webs of our material dependency on non-human critters that encourage us to cultivate 'response-ability' and (3) activating political mobilisation based on empirical experiences – thinking of immediate physical experiences and sensory values as major sources of environmental activism.

So forget the word environment, commonly used in this context. It assumes that we humans are at the centre of a system of nature. This idea recalls a bygone era,
when the Earth (how can one imagine that it used to represent us?), placed in the centre of the world, reflected our narcissism, the humanism that makes of us the exact midpoint or excellent culmination of all things. No. The Earth existed without our unimaginable ancestors, could well exist today without us, will exist tomorrow
or later still, without any of our possible descendants, whereas we cannot exist without it.

—Michel Serres (1995 [1990]: 33)

You and the tree in your backyard come from a common ancestor. A billion and a half years ago, the two of you parted ways. But even now, after an immense journey in separate directions, that tree and you still share a quarter of your genes . . .

—Richard Powers (2018a: 132)

Introduction

Climate irregularities and subsequent extreme climate events – frequent flooding, heat waves, tornadoes and other natural catastrophes followed by environmental degradation – seems to have finally 'worked'; in the wake of often unexpected and brutal feedback from nature, increasing awareness and attention has been paid to the idea of the Anthropocene, along with a heightened eagerness to act. While some might challenge whether it is merely a repackaging of the old sustainability politics – isn't this all about the same 'environment'? – new materialist or 'new ecology' writers, such as Donna Haraway and Bruno Latour, proclaim that the Anthropocene marks a new era, in which humans finally 'internalise' (rather than externalise) nature. In internalisation of nature, what we have described as the

‘environment’ is no longer a background or stage separate from our daily lives. In other words, we understand that our material existence is utterly dependent upon the grace of our surroundings (e.g. how do you externalise the air you breathe?). All of this may have surfaced ever more tangibly thanks to the extreme climate events that invoke the limit of human capacity to control and plan what is to come, as these are often characterised by their uncertainty and unpredictability (Bonneuil and Fressoz, 2016; Chandler, 2014; Stengers, 2015). ‘Cheap nature is really over’ claims Haraway (2016), citing Jason Moore at the World Ecology Research Network: ‘cheapen- ing nature cannot work much longer to sustain extraction and production in and of the contemporary world because most of the reserves of the Earth have been drained, burned, depleted, poisoned, exterminated, and otherwise exhausted’ (p. 100). The Anthropocene marks the *end* of the ‘refugia’ – an untouched utopia where we could be entirely free from the mess we’ve made – as we now face or *feel* the consequences of our actions everywhere, such as extreme weather patterns and climate events that inevitably influence our daily socioeconomic activities.

In the disciplines of geography, anthropology or sociology, the Anthropocene has trig- gered an abundance of interesting research questions and subsequent results – or ‘stories’ – of how to live/what it is like to live in the face of an end to our material surroundings. These efforts include learning from indigenous societies or rural communities that sus- tained a close connection with nature (Lear, 2006; Lobo, 2019) and from the non-human world that has always known the mutual dependences and co-evolution of living beings (Kohn, 2013; Tsing, 2015). In planning, however, the Anthropocene stands on tricky ground; its emphasis on uncertainty and unpredictability can discount the very value of planning. After all, planners ultimately aim to plan for a ‘better future’ – a certain version of future that they clearly envision, a potential ideal that one can project and work towards. But the very acknowledgement of the uncontrollability of extreme climate events – which can happen in any moment, anywhere – challenges the purpose of plan- ning itself. It has been difficult to really embrace the Anthropocene in the field of plan- ning or actual planning practices, because its emphasis on extreme uncertainty can often paralyse us, if not negate the rationale behind our efforts to ‘do something’. Houston et al.’s (2018) work on introducing the Anthropocene and more-than-human ecology to the planning theory dialogue is inspiring, as they point out that it is also time for planning – which has so far retained the human-centric, human-exceptionalist view of the world – to critically reframe the ‘city-nature nexus’

(p. 203) so as to develop more inclusive and ethical relationships with other non-human species or ‘critters of all kinds’.

Responding to Houston et al.’s (2018) call for planning theorists to develop ‘a thicker, relational, and more responsive form of posthumanism to imagine and enact just and sustainable cities’ (p. 203) in the Anthropocene, in this article, I outline what planners can actually learn from the recent developments in ‘more-than-human’ political ecology, or what I frame as ‘anti-essentialist ecopolitics’ writers (e.g. Bruno Latour, Donna Haraway, Anna Tsing, Maria Puig de la Bellacasa, Jane Bennett, Rosi Braidotti). I follow the origination of their thought processes and apply them to planning contexts. In that sense, this article is essentially a continuation of the dialogue that Houston et al. (2018) has initiated.

What I newly offer to this existing dialogue is, above all, a theoretical context behind our assertion on *why* one should ever care about this posthumanist or ‘new ecology’ movement. In doing so, I focus on discussing the kinds of novel ideas that are particu- larly unique to this movement, which goes beyond the assumptions of existing environ- ment politics. The argument that ‘one should take care of the environment’ – and hence the necessity of ‘environment planning’ in cities – has existed for a long time, especially with ‘sustainability’ dialogue that recognises the finite resources and the role that humans play in environmental degradation. If the argument itself is old, then what is it about posthumanist thought that makes it so distinctive – to the point where the plan- ning discipline should pay it special attention? It is my hope that this article answers that question.

The second objective of this article, in relation to the first, is to situate this posthuman- ist dialogue more deeply into the urban planning context. For a long time, posthumanism has been associated with the ‘new age’ counterculture movements, which have often been dismissed as minority sentiments or not taken seriously enough to be integrated into mainstream political arguments. However, upon the arrival of alarmingly frequent cli- mate irregularities and extreme natural disasters, more and more policy-oriented aca- demic communities have started engaging with more-than-human ecology discourses (see Biermann, 2014). Although Houston et al.’s (2018) discussion was pioneering and inspiring, it is yet to be ‘popularised’ enough to be accepted by mainstream urban plan- ning practitioners who juggle different priorities that often eclipse long-term ecological concerns. In this context, I aim to lay out specifically how planners could resonate with more-than-human ecopolitics in their everyday policy practices.

The beginnings of posthumanist or more-than-human thought can be traced back to 19th-century philosophy where political geographers explored the influence of physical (territorial) environment on social evolution, recognising the role of non-human forces that are greater than human will in constituting a society (Ripley, 1894; Usher, 2019). Especially in the disciplines of critical geography and anthropology, there have been important discussions on the significance of the 'Anthropocene moment' of our time and its potential political promise (see Head, 2016; Usher, 2019; Whatmore, 2006, 2017). While I acknowledge the long history of posthumanist thoughts and their divergent tradi- tions, given the limited space that I have here, I concentrate mainly on (1) the new mate- rialism literature that has been picked up specifically by planning theory writers and (2) contemporary developments in the 'more-than-human' ecopolitics literature that provide novel ways of thinking about 'nature' or 'the environment'.

'Material turn' and posthumanist (or 'more-than-human') ecology in planning theory

Before immersing into recent developments in 'more-than-human' political ecology, I would like to first review the influence of posthumanist thoughts in planning theory. The purpose of this section is to provide a theoretical background on why they have been considered relevant to planning theory, so as to create a linkage between what has been argued before on new materialist planning (Beauregard, 2015; Lieto, 2017; Rydin, 2014; Webb, 2018) with Houston et al.'s (2018) more-than-human ecology arguments.

Posthumanist ideas are closely related to the rise of new materialism, which empha- sises distributive agency or relational aspects of human agency – we cannot exercise our will to act without our relationship with non-human surroundings or 'things'. Posthumanist, or more-than-human, ecology arguments in planning are closely related to new materialist turn in planning, and they should be considered together rather than treated as separate movements. Importing new materialism to the planning discourse is not new, as Yvonne Rydin (2014) has very well laid out what this 'material turn' implies in planning theory and practice. Mainly drawing from Deleuzian-inspired assemblage thinking and Latour's actor-network theory (ANT), Rydin discussed why materialist philosophical thoughts have become so relevant to urban planning today. Similarly, Beauregard (2015), largely derived from ANT – where our intentions or actions (or 'agency') must be understood in the context of our relation with others – attempted to bring materialism more sincerely to the planning practice discourse.

Let me summarise this materialist turn into three key take-aways that are useful for planning theory. Above all, by rethinking ‘agency’ as something that arises out of asso- ciations and connections within one’s relationship with others – instead of an independ- ent entity – the material turn in planning questions the role of the planner. With this notion of ‘distributive agency’, planners are not really the most important actors in plan- ning processes, as these processes will float around the heterogeneous agencies exer- cised by different groups and associations and their relationship with one another:

> Planners are not so much intervening as drawn into associations which are then the cause of change. . . . The work of planning practice is thus about working with heterogeneous elements in a variety of small ways to induce mediators into coexisting or stabilising assemblages (for the time being) so that resultant change can be generated but little certainty as to what that change will be. (Rydin, 2014: 591)

Planners are now asked, to some extent, to abandon their modernist aspirations and dreams by acknowledging that their outcomes will not always culminate in the way they intend, because of the agencies that non-humans – and their coalition with human net- works – have in the process: ‘Agency is always shared among humans and nonhumans and the places they create. . . . No individual, whether mayor, developer, or capitalist, is solely responsible. What matters are coalitions of heterogenous actors, the very basis for a democratic planning’ (Beauregard, 2015: 73).

Second, the material turn in planning engages with the materiality of urban design and planning, or the role of the physical fabrics of the built environment (e.g. buildings, parks, streets, lanes) in shifting our ideas or perception of the world. Since the discursive/ communicative turn of the late 1990s (Forester, 1999; Healey, 2003 [1996]), a majority of planning theorists mostly engaged with how to deal with conflicts born out of value differences. It was, inadvertently, ‘human-centric’: the job of planners was more or less hosting a series of roundtables or counselling sessions to get people to agree on some- thing, so that planners could execute these decisions while leaving the majority of ‘mate- rial planning’ – physical organisation of space – to architects and landscape designers. Intentions, values and meanings are only exercised by human agency, which is assumed to be in complete control of its own consciousness and purposeful action. Consequently, planning theory often lost touch with the material aspects of planning: architecture, land- scapes or the empirical experiences of urban space can radically influence or even shape how people

perceive the world. Marres's (2012) book, *Material Participation: Technology, the Environment, and Everyday Publics*, specifically addressed this poten- tial of material 'things' in shaping environmental politics, as they become effective micro-influencers that seep into our subconscious or conscious daily-life decision- making processes. The examples include installing everyday carbon accounting devices or artistic interventions in public space that nudge us to realise the presence of sunlight, trees or the immediate natural surroundings that we often take for granted (see also Latour and Yaneva, 2008; Yaneva, 2009 for the role of architecture as a political state- ment). Recently, Webb (2018) has brought this perspective more concretely into the con- text of planning theory and practice, with his work on 'tactical urbanism' as a material politics of change. His example 'Reclaim the Lane' community project in Newcastle (UK) exhibits how the materiality of spatial designs can facilitate 'more-than-verbal' exchanges, dialogues and communications. Community members were invited to dis- cuss the material/physical details of how they would clean up, refurbish and decorate their public space (their shared back lane) – such as by choosing planters, murals/partici- patory mosaics and designs/organisation of space. The process prompted them to build connections with their neighbours, often ending up discussing other issues that they col- lectively face as a community: 'many of the uses of material interventions . . . provided a means of triggering opportunistic debates, gathering information, adjusting and adapting activities, co-designing physical changes and maintaining visual momentum between community events' (Webb, 2018: 11).

However, the strongest suit for new materialism's lesson for planning may be its influence on how we perceive nature and ecosystems and their role in environmental planning. The idea that things and non-human critters also have agency crystallises once we think of climate irregularities or extreme weather events that physically affect how we plan and organise space. Especially in the fields of hazard mitigation and disaster planning, working with nature in the long term (e.g. changing land-use plans according to flood history, deploying building regulations that adapt to flash flooding) – rather than temporarily suppressing its impacts (e.g. hardening protective walls) – has become the norm. In these planning contexts, without us even really acknowledging it, we are already recognising the agency of water, river, rain and what the ecosystem does, as our inten- tions and actions are shaped by them. Rydin (2014) pointed out that the material turn in planning provides a new opportunity to re-engage with environmental dimensions of planning practice. Materialism-informed planning often unfolds in concert with the eco- logical systems of regional water

courses, green infrastructure and urban climatology, not simply because we want to be 'pro-environmentalists' but more because it 'seek[s] to engage with that socio-materiality and this involves detailed attention to material aspects of sites, ecosystems, and environmental systems' (Rydin, 2014: 592). More often than not, the most demonstrative examples of materialism-informed planning focus on the city–nature nexus. One major example that Beauregard (2015) uses for his demonstra- tion of materialism-informed planning is post-Katrina New Orleans, where planners and citizens are now obliged to consider 'nature' as an active, performing agent whose voice must be respected if the city is to have a sustainable, or resilient, future. As he says,

> Assemblage thinking . . . encourages planners to recognize that humans do not exist alone in the world. Moral responsibility is distributed. To remediate the erosion of bayous, humans will have to act, but they will have to act in concert with technologies and nature. . . . Any intervention, any attempt to rectify a social problem, has to include humans and nonhumans. (Beauregard, 2015: 112)

Lieto's (2017) main example of materialist planning also concerns the human–nature nexus; Portland's climate change policy is discussed as a success story for how carbon dioxide was used to mobilise actors with different interests and contradicting world views. At the heart of her storytelling, it is almost assumed that material planning would have the most chance of proliferating in the context of environment planning; as she notes, 'cities are the sites in which, most dramatically, climate change as a global process crystallises' (p. 573).

Most recently, Houston et al. (2018) extended this materialism dialogue in planning to embrace more-than-human (or posthumanist) ecology, by importing the works of Donna Haraway and other writers who imagine planning and cities that move beyond the essentialist dichotomy between human and nature. If 'distributive agency' in the material turn in planning – especially the one highlighted by Rydin (2014) and Beauregard (2015) – meant that planners need to be more humble by recognising that they are not the only protagonists of planning actions, more-than-human ecologist planning stretches that logic even further, claiming that we as the human species have to be more humble by acknowledging our material dependency on and interconnectedness with non-human critters. Once we acknowledge the inevitably and inseparably networked character of human and non-human agencies, we have no choice but to consider planning 'co-becom- ing in and for diverse multi-species communities, where humans, plants, soils, microbes, birds, fungi, insects,

native and nonnative animals shape urban landscapes' (Houston et al., 2018: 194). Accordingly, Houston et al. (2018) cogently ask whether planners in the Anthropocene, where the powerful feedback from nature can negate the very ration- ale for human intervention, would be prepared to 'abandon the traditional idea that politi- cal rights, entitlements and deserts only apply to people' in order to 'expand political reasoning to include nonhumans, without resorting to the idea that the latter exist "in themselves"' (p. 201).

I fully agree with these contentions, and this article is an extension of them; my only reservation is the lack of explanation on the philosophical background behind posthu- manist ecology discourses, which makes their 'pro-environmentalist' normativity ('we *have to* consider nonhumans as part of us!') rather less nuanced. How can this argument be different from the 'urban sustainability' discourse, where pro-nature tendencies were taken as a moral imperative? I focus on explaining the theoretical trajectory behind the development of posthumanist ecopolitics, to show how and why these ideas offer novel insights that go beyond the simple assertion of pro-nature ethics.

I emphasise the *anti-essentialist* aspects of this new ecology movement, in attempts to highlight how this 'new materialist', 'posthumanist' or 'more-than-human' approach is different from the previous environment politics – which somehow 'imposed' its ideals upon us without careful explanation of why 'protecting nature' truly matters, what that really means to our everyday lives or, to put it bluntly, why we ever have to bother our- selves or sacrifice our everyday conveniences to 'save nature'. I want to underline the new material ecopolitics' close association with care ethics and pragmatic empiricism, which draw their tradition from anti-essentialist takes on morality and ethics. Following my theoretical articulation, I contextualise this dialogue against urban planning, demon- strating how a posthumanist understanding of the world can offer constructive relevance for planning practitioners.

Main themes of posthumanist/anti-essentialist ecopolitics

In this section, I draw the three main themes of posthumanist/anti-essentialist ecopoli- tics, focusing on the innovative aspects of their thinking that switch the way we think of and do environment politics.[1] Above all, anti-essentialist ecopolitics writers argue that ecology should not be considered external or outside the realm of politics or sepa- rate from the

‘social’ questions. To claim this, writers such as Latour (1999, 2010, 2017) and Haraway (2003, 2016) question the essentialist distinction between nature/ culture, human/non-human, or simply, the notion of human exceptionalism that is deeply engrained in our current political thinking. Second, anti-essentialist ecopolitics asks us to consider the agency and historicity of nature and non-human species. Latour (2015) and Haraway (2016) highlight that human agency could not have been exer- cised without the agency of non-human beings, living or nonliving ‘things’ alike.

Acknowledging our material dependency on the world of non-humans, exacerbated by the notion of the Anthropocene, instigates the formation of our responsibility for the consequences of our actions. Finally, anti-essentialist ecopolitics calls attention to empiricism and sensitivity to what surrounds us. Largely influenced by pragmatism and late feminism, what matters more is what we can grasp, feel and experience, not our abstract perception or ‘what we think it is’. This emphasis on empirical experience is then translated into actions that could be done at the local level or at a narrowed- down geographical scale, which can allow us to feel more tangibly connected with our immediate surroundings. This third theme, which draws our attention to the increasing importance of ‘local’ actions in the Anthropocene, is particularly relevant to urban planning and urban environment politics.

Ecopolitics as an extension of mundane politics of representation: ‘nonhumans as social minorities’

Latour (1999), in his book *Politics of Nature* (*Politique de la Nature*), tells us to forget about ‘Nature’ if we wish to do ecopolitics correctly. Our common mistake, he claims, is that we often consider Nature with the capital ‘N’ and therefore disregard it as some- thing that has nothing to do with our daily lives – which he calls ‘externalising nature’. In this perception, nature has no connection with our economic or social affairs, and if we consider that it exists in our lives, that is only when it (1) maintains its generosity as ‘Mother Nature’, which provides humans endlessly and unconditionally with resources or (2) appears idle and inactive, quietly serving its role as a background or stage of human affairs. If we are to rethink our approach to ecopolitics and transform our ways of doing ecopolitics, we have to abandon the conceptualisation of ‘Nature’ as a figure external to human society. Instead, Latour suggests a secularised version of nature, the kind of nature that has infiltrated our daily lives, which plays an inseparable role in our secular socioeconomic activities. Throughout a series of works, Latour patiently dis- mantles the essentialist distinction

between what should be considered nature/culture or human/non-human. By questioning such essentialist categorisations, Latour argues that ecopolitics is merely an extension of the mundane politics of representation, which is less about 'Nature' and more about whose voices should be listened to in the political arena – where the range of 'voices' includes not only humans but also non-human living beings and 'things'.

The starting point for anti-essentialist ecopolitics, therefore, is to demonstrate how the nature/culture and human/non-human distinctions are merely a socially constructed 'habit' or an effect of 'style', which can be unmade. In other words, the categorisation of 'what's human' is not made of 'essences'; it is nothing but some temporary habits that we learned to 'articulate' things (Latour, 1999: 129). In a similar vein, feminism- inspired ecopolitics writer Haraway (1992, 2016) goes a step further in more clearly demonstrating why human/non-human categorisations are merely a product of social fabrication, or a version of 'speculative fabrication' that can be challenged and subject to change. Drawing ample scientific evidence from developmental biology, Haraway discusses the history of species co-evolution across animals, humans and bacteria – underlining how the development of all living, material 'critters' are intertwined.

Species mutually influence one another even by sheer existence, often without immedi- ate or visible effect; the findings from biology and history of species reveal that there are in fact more 'sympoesis' than 'autopoesis', which is to say, there are more critters that have co-evolved with other organisms (i.e. their development was dependent upon the behaviours/existence of other organisms) than that are self-forming or self-sustain- ing (Haraway, 2016: 125). More specifically, in her essay 'Companion Species Manifesto', Haraway effectively turns her personal, emotional and therefore empirical experience of having a close relationship with 'a nonhuman other' (her companion dog *Cayenne*) into a serious inquiry on 'how to define *us*', especially when we, humans, are the product of historical layers of multi-species co-evolution. 'There is no time or place at which genetic ends and environment begins', she claims, 'at the least, I suspect that human genomes contain a considerable molecular record of pathogens of their compan- ion species, including dogs' (Haraway, 2003: 32).

Developing this rich account of the history of co-evolution, or how dependent the human species has been on other species for its evolution, precisely underlines how imprudent of us it is to single out 'human agency' as something superior or exceptional. Once

we can acknowledge that human exceptionalism (the essentialist notion of 'human soul' or 'consciousness') is socially constructed and fabricated, we may be able to imag- ine a new kind of ecopolitics that recognises the active 'agency' of non-human critters – whose voices are conveniently 'muted' just because their ways of communication dif- fer from those of humans. In fact, anti-essentialist ecopolitics' battle against essentialist concepts and categorisations, to give more power to previously silenced voices, is closely related to feminist movements and their political trajectory.

Feminist movements have pioneered in dismantling and un-making the essentialist categorisation of gender, which historically served as a criterion to decide what should be a 'legitimate' voice in a society. Throughout history, the dominant power has always com- mandeered the microphone and proclaimed its exceptional importance, trying to maintain its institution by establishing artificial criteria. Latour (2017) says, '[I]t is because he spoke freely on the agora that man—at least the male citizen—had the right of citizenship. Fine; who is saying anything different? Who wants to question this definition? Who wants to undermine its foundation?' (p. 109). Now it may be time to reconsider the essentialist idea of human exceptionalism, in which we unquestioningly take for granted that non- humans and things should not have a 'say' in politics, just because they can't speak or we think they don't have a 'soul'. Who decides this essentialist distinction? Is that not a con- tinuation of the oppressive power that we have observed in racism and sexism? Braidotti (2017), in her essay 'Four Theses on Posthuman Feminism', argues that feminism has always defended the marginalised, neglected 'other'; feminists have progressively sup- ported the inclusion of non-male, non-White groups into a political arena. This feminist ideal of being radically inclusive, coupled with posthumanism, now expands to embrace animals, insects, plants, cells and bacteria as legitimate voices to be heard.

If we were right in dismantling the essentialist categorisation of gender, for the better- ment of our politics of representation (i.e. to better represent 'us'), then it appears neces- sary to extend that logic to other categories that we often take for granted – and especially for anti-essentialist ecopolitics, the category between nature/culture, human/non-human or biology/society. Connecting posthumanism with feminist movements reveals that ecopolitics is not so much about 'nature' or our chivalric – almost charity-like – action to do something *for* her, but more about our mundane politics of representation, which questions what defines 'us', the source of our political solidarity, who should be repre- sented first and who

shouldn't, and thus how to allocate power and level of influence. These questions have always been at the centre of any social movement that challenges a dominant social order, and the anti-essentialist ecopolitics literature aims to address them. Once we abandon our habitual ways of categorising, or at least realise that these categorisations are merely a socially constructed, repeated articulation – as was clearly true for sexism and essentialist categorisations of gender – we will be able to finally see the other agents or 'stakeholders' that are at play, who have been unjustly muted.

Latour therefore takes on the notion of 'spokesperson' (*porte-parole*) and argues that things and non-humans – which do not currently possess the ability to 'speak' – should retain the right to have human spokespersons represent them and their interests. This way, ecopolitics is nothing grand; it merely *extends our mundane efforts* to represent reality as best as we can, and we should continue doubting whether the mainstream rep- resentation of 'Reality' is comprehensive enough to reflect the realities viewed/lived through different agents and perspectives. Non-human voices may have been neglected and underrepresented, which does not mean that they do not or should not actually exist (Latour, 1999: 107–108). The key question that ecopolitics raises is about who is speak- ing and who has *the right to speak*. Answering this question is no longer about 'nature' or 'environment', but fundamentally about how to construct a democracy that is always willing to *add new voices* to the discussions, the voices that have been inaudible up to now: 'To limit the discussion to humans, their interests, their subjectivities, their rights, will appear as strange a few years from now as having denied the right to vote of slaves, poor people, or women'. (p. 107). To be an ecopolitician, or an ecopolitics writer/ researcher/activist, is to be an advocate for all the silenced and underrepresented voices, regardless of their externally imposed categories.

Entanglements, interdependency and cultivating response-ability: 'staying with the trouble'

The anti-essentialist ecopolitics literature's effort to de-mystify 'human agency' stems from a social constructivist view of the world; we are here thanks to different agencies and roles that non-human critters have played along the way. Posthumanism, or more specifically, *anti*-human-exceptionalism, is precisely about having this unassuming atti- tude in viewing the world and the things that we do, thinking of the relations that we have across different critters, and appreciating every single organism that has put us where we are today. New materialists (Bennett, 2010) have effectively articulated this idea of entanglements and 'distributive agency', highlighting how human agency should be per- ceived in relation with

agencies of non-human critters and 'things' – via acknowledging their roles in shaping the world that we inhabit. As Bennett (2010) eloquently states,

> A theory of distributive agency . . . does not posit a subject as the root cause of an effect. There are instead always a swarm of vitalities at play. The task becomes to identify the contours of the swarm and the kind of relations that obtain between its bits. To figure the generative source of effects as a swarm is to see human intentions as always in competition and *confederation* with many other strivings, for an intention is like a pebble thrown into a pond, or an electrical current sent through a wire or neural network. (p. 31, emphasis added)

However, this new wave of social constructivism itself does not automatically provide normative guidelines that can be useful for policy actions. In fact, it can even counteract it: if my intention and desire to do something is merely 'a pebble in the pond' – that I can always launch, and yet I will never be able to control its *consequences* – would I ever be responsible for my actions? The flip side of belittling human agency is unloading the bur- den of its responsibilities; while the imperative of 'Be humble!' is useful for reflecting on how nature (and non-human critters) has helped us to be where we are (or, 'to highlight some of the limitations in human-centred theories of action' Bennett, 2010: 23), it does not necessarily tell us why we have to be, to put it bluntly, 'pro-environmentalists'. With the concept of 'entanglements' alone, we can easily ignore environmental degradation, saying that 'we couldn't help it' or 'it was the fault of other agents and contextual factors of which we as the human species were not aware or in control'. In other words, the ethical paradox of posthumanism – where we downplay human agency so as to give agency and power to non-human critters – is that precisely by doing so, we negate the possibility of our purpose- ful will and affirmative action – let alone a collective action or a policy decision. There is no fundamental *causality* between our actions and their impacts, and thus one could argue that there is actually no point in having an 'intention' because it might end in 'unintended consequences'. To recognise the agency of non-human things and species is, to a certain extent, to *discount the causal linkage* between our actions and their outcomes, which might eventually lead us to just 'give up', as we don't see the point of acting.

In the face of this paradox between 'we have to be humble about where we are' and 'we still have to take responsibility for environmental degradation', perhaps 'the shock of Anthropocene' (Bonneuil and Fressoz, 2015) might be able to provide a missing link that smooths out the contradiction. Undeniably, frequent natural disasters and extreme climate

events, which originate that shock, help us formulate a collective dialogue around the limits of the 'soul-full' will of human agency, as well as the fragility of our depend- ency on non-human surroundings. Our bodily, material existence cannot be sustained without the non-human fairies doing their jobs in maintaining the ecosystem: 'Bacteria made our oxygen atmosphere, and plants help maintain it. Plants live on land because fungi made soil by digesting rocks' (Tsing, 2015: 22). In the Anthropocene – represented by extreme climate irregularity events – we are constantly reminded of our dependency on ecosystems, since our bodily survival is often in the hands of non-human actants. This implies that, in the Anthropocene, pro-environmentalist normativity is *not* a moral imperative or an act of benevolence *but* a *survival strategy* that we are now clearly in the position of adopting more seriously – given the destructive and alarming feedback from ecosystems. The concept of 'entanglements', when placed together with the 'shocks' that we now have to cope with, becomes important not just because it humbles our ego but also because it gives a motivating reason for us to care about non-human others – acknowledging their crucial role in sustaining human life.

Let me elaborate further on the function of 'Anthropocene moments' in relieving the tension between constructivist attitude versus taking responsibility for our actions. To do so, I would like to turn to the vast *historicity* of nature where humans have always been mere participants (instead of major protagonists). We have always thought that the idea of 'history' only exists within what humans do and how we relate to one another within our own species. The Anthropocene, which now knocks on the door of our human-cen- trism with extreme climate events, challenges this perception. How about the history of non-human critters that existed before human civilisation? Have we ever properly con- sidered the important roles that they have played all along, to create our common habi- tat? If we were to truly recognise the agency of non-humans, it would be to imagine a history of the world *without* humans in it. We often fail to acknowledge the temporal and historical aspects of nature, or the idea that the Earth had its own history before human civilisation ever began:

> To walk attentively through a forest, even a damaged one, is to be caught by the abundance of life: ancient and new . . . But how does one tell the life of the forest? We might begin by looking for drama and adventure beyond the activities of humans. Yet we are not used to reading stories without human heroes. (Tsing, 2015: 155)

The question then becomes how we can respect the historicity of nature (in which humans are only one kind of participant) as much as we value the historicity of humanity (in which humans are the protagonists). The recent trend of anthropologists' work on vivid historicity and the lives of non-human critters – notably, *Arts of Living on a Damaged Planet: Monsters of the Anthropocene* (Tsing et al., 2017) – is a true manifestation of this effort to acknowledge how more-than-human critters' stories should matter as much as humans' stories. As Tsing (2015) says, 'The time has come for new ways of telling true stories beyond civilisational first principles' (p. vii). When Richard Powers (2018b), the author of a Pulitzer Prize winning novel *The Overstory* – which depicts overwhelmingly vast life-stories of trees and their historical connection with us – was asked about his inspiration for the book, he answered,

> I teach at Stanford University, and just above the Silicon Valley, there are Santa Cruz mountains. It's covered with the redwood Sequoia forests. I was walking amongst these spectacular Sequoia trees, I came across a tree that was ten meters wide, and hundred meters high. It was 2,000 years old—as old as Christianity. And I told myself: the future is below, for the past is here in the heights. There was a history between trees and humans that I've never heard of. (Powers, 2018b)

What becomes clear here, in recognising this immensely long and vast historicity of trees, fungi, microbes or 'monster' – compared to which human life is only transient – is that it is *not* the non-human critters (or simply put, 'nature') who need us; *rather* it is we who helplessly need their support for *our own* survival. The analogy of para- sites (Serres, 1995 [1990], 2007 [1980]) perhaps represents this situation most effec- tively: we are currently living off of our host (i.e. nature), and when our host dies, we cannot exist; it's not the trees, forests, and biome that need us, but we who are utterly dependent on them. And *only when* we account for the Anthropocene (or the end of 'refugia') – which ultimately underlines the human species' dependence on other non- human beings – can the idea of 'entanglements' have meaningful normativity to environment politics. If we can thoroughly, wholeheartedly embrace that we cannot simply walk away from environmental degradation – precisely because the life of our material, bodily existence is *attached to* (or 'entangled with') the existence of other living beings on Earth – the normative agenda for posthumanism would be to 'stay with the trouble' (Haraway, 2016). Despite the fact that there is no guarantee on whether our good intentions would result in good consequences, we are now obliged to embark on concrete actions to curb the impacts of human interventions on the life of other

species, because ‘their’ world is a precondition of ‘our’ world (Bargués-Pedreny and Schmidt, 2019). Again, this is not just a courtesy we are paying to the agents who allowed us to be here (as a part of ‘being humble’), but a survival strategy that is embedded within our bodily mechanism to continue living. As a Zadist slogan says, ‘we do not defend nature, we are the nature which defends itself’ (Azam, 2018: 145).

> Staying with the trouble means cultivating our ‘response-ability’ to the lives of non-human critters, becoming more aware of and accountable for the human interventions that negatively influence ecosystem functions and lives of other critters. It is to encounter the world of ‘the other’, and see your world within it. As Haraway (2016) notes,

Encountering the sheer not-us, more-than-human worlding of the coral reefs, with their requirements for on-going living and dying of their myriad critters, is also to encounter the knowledge that at least 250 million human beings today depend directly on the ongoing integrity of these holobiomes for their ongoing living and dying well. Diverse corals and diverse people and peoples are at stake to and with each other. (p. 56)

This multi-species interdependency underlines the ‘curious junctures of collaborative survival’ (Tsing, 2015: 176) as well as the precarity of these relational webs, which then leads to a political project that respects, protects and cares for the historic existence of non-human critters to which we owe our own existence. To acknowledge others’ pres- ence, as well as our dependency on them, is

> to become less deadly, more responsible, more attuned, more capable of surprise, more able to practice the arts of living and dying well in multi-species symbiosis, sympoiesis, and symanimagenesis on a damaged planet . . . All of us must become more ontologically inventive and sensible within the bumptious holobiome that earth turns out to be, weather called Gaia or a Thousand Other Names. (Haraway, 2016: 98)

Indeed, these ideas are connected to the works of Levinas (1998 [1974]), Butler (2006), and Barad (2007) who noted that, above all, it is the ontological condition of ‘existing materially’ – its inevitable fragility and entanglements with the other (for one’s very own survival) – that begets a sense of responsibility and hence, potentially, some anti-essen- tialist ethical grounds. Staying with the trouble, and being responsible for our actions, is not a moral commitment that we get to choose, but rather ‘an incarnate relation that precedes the intentionality of consciousness’ (Barad, 2007: 392). As Barad puts,

> Intra-acting responsibly as part of the world means taking account of the entangled phenomena that are *intrinsic* to the world's vitality and *being responsive* to the possibilities that might help us flourish. Meeting each moment, being alive to the possibilities of becoming, is an ethical call, an invitation that is written into the very matter of all being and becoming. (p. 396, emphasis added)

In relation to how our interdependency on one another gives birth to a new kind of anti-essentialist morality that isn't imposed from above, one could refer to the rich account of 'politics of care' literature in geography (Tronto, 1993, 1995; Lawson, 2007). Most recently, Puig de la Bellacasa (2017) in her book *Matters of Care: Speculative Ethics in More Than Human Worlds*, effectively demonstrated how posthumanism and 'assemblage thinking' ultimately instigate an ethico-political commitment to care for the other, particularly 'neglected things' (p. 66). However, this commitment is different from an imposed, *a priori* morality. As Bellacasa notes, the question of 'care' implies much more (or is 'too important'), to be reduced to a moral obligation or hegemonic ethics (p. 10). Driven by the idea of interdependency, interconnectivity or the relational condition of our existence – from which no one, or nothing, can be entirely freed – *caring for* something 'engages much more than a moral stance; it involves affective, ethical, and hands-on agencies of practical and material consequence' (p. 4). Care ethics, as opposed to top-down, hegemonic, *a priori* ethics, provide a ground for normativity by requiring each of us to acknowledge our inevitable self-*in*sufficiency.

Empiricism, sensitivity and responding to one's immediate surroundings: 'feel it to act'

However, it might be naive to think that we can suddenly unite everyone in the name of 'nature'. In fact, Latour's critique of environmentalism of the 1990s was targeted at the unrealistic belief that we can suddenly summon everyone to serve 'Nature' – an abstract, external figure that is completely separated from our daily lives. A notable example of this approach is creating a series of 'greenbelt' areas (as our 'service' to nature). The default perception of pro-environment politics in the 1990s treated 'the environment' as external to our daily activities, failing to communicate that our everyday activities are closely intertwined with ecosystem functions. Therefore, what we must do, to exceed the old 'sustainability' politics that considers environmental-friendliness a tertiary option, is to debunk this notion of *Nature* and 'the environment' that has been externalised from the core functions of our socioeconomic activities.

The posthumanist approach to environmental politics in the Anthropocene, therefore, attempts to rediscover a 'nature' and 'environment' that are deeply situated and infil- trated into our daily lives, until it becomes impossible to separate what was nature or culture/human in the first place. The effective way to be so engaged is to cultivate the sensibility to notice, *feel* and respond to what is going on around our physical surround- ings, because that way we can be reminded of the things that we often take for granted; in the middle of busy modern life, once we stop everything for just a moment and pay attention to what surrounds us, we might be able to notice the feeling of the wind, smell of the grass and sound of the trees. More often than not, posthumanist literature draws its theoretical ground from Dewey – an empiricist pragmatism (see Bennett, 2010; Latour, 2017; Marres, 2012), which prioritises *sensibility* and *bodily experiences* over abstract or discursive representations of the world. This comeback of empiricism, they argue, is effectively triggered by extreme climate events and natural disasters, which now com- mand us to 'pay attention' (Stengers, 2015: 61) to our surroundings, to listen and *feel* the feedback from nature.

The importance of lived experiences and empirical sensitivities has often been high- lighted by feminist pragmatists, such as Kruks (2001), who argued that effective feminist politics requires 'hold[ing] onto the concepts of experience and attending to the ways in which experience can exceed discursivity' (p. 133). Following this Dewey-an tradition where experience and 'embodied intelligence' (Bernstein, 2010: 85) exceed discursivity, language or rationality, Anthropocene feminists and posthumanist (or 'new materialist') writers – such as Tsing, Haraway, Barad, Bennett, Braidotti and Grusin – all seem to under- line how important it is to recognise 'feelings' and *lived experiences* as a legitimate source of political solidarity and action. Most notably, Puig de la Bellacasa's (2017) articulation of feminist posthumanism highlighted how 'sensory values' can bear ethical implications, such as 'reciprocity'. Touching 'intensifies' closeness and the encounter with the other that surrounds us, which inspires us to be aware of material everyday agencies. This awareness, practically activated by the sensory feelings, pushes us to respond, react and be 'response- able' to the ones that touch us, or to the experience of being touched. The empirical experi- ence of 'being touched' is an invitation to be engaged with the other, and to a certain extent, to care for the other: '[v]alues for touching visions call for an ethical engagement with the possibility of care as a relation' (Puig de la Bellacasa, 2017: 119).

What we can learn from these works – especially for planners and policymakers involved in everyday political activities of urbanism – is that feelings and emotions can be a powerful and legitimate ground for initiating political solidarity, movement and action. 'Feel it to act', in short, is the major thesis of posthumanist ecopolitics, which gives rise to localism and place-based politics/practices that do not lose touch with the Earth, on which we place our feet, and our immediate surroundings, which constantly send signals for us to be engaged. One of the biggest problems that Latour (2017) identi- fies in today's environmental politics is, essentially, that it lacks 'territorial anchorage'. The promise of modernisation, predicated on the idea that we must advance beyond the barbarity of nature and 'uncivilised' village life, forced us to forget where we come from or what we are rooted on – to imagine a future and 'progress' of human ingenuity *freed* from any territorial constraints. According to Latour, the humans of 'Anthropos' – the Moderns who still believe in human exceptionalism and endless progress of the human world – do not have a land where they belong and so cannot care less about the impacts of human interventions on the ecosystem; as Michel Serres (1995 [1990]) says,

> Now only living indoors, immersed only in passing time and not out in the weather, our contemporaries, packed into cities, use neither shovel nor oar; worse yet, they've never even seen them. Indifferent to the climate, except during their vacations when they discover the world in a clumsy, Arcadian way, they naively pollute what they don't know, which rarely hurts them and never concerns them. (p. 28)

Losing our territorial anchorage, or forgetting our inevitable reliance on the territory on which we stand, may be the very beginning of our irresponsible pursuit of 'progress' while failing to pay attention to the feedback from nature. The task before us, then, is to rediscover and redefine our territorial anchorage; for Latour, to do so is to become 'earth- bound'. The earthbound are sensitive to their surroundings and responsible for their actions; they listen, feel and take notice of the feedback loops and adjust their activities accordingly to be a part of the whole. They care for nature not because they are superior beings but because they belong to a territory and are willing to defend its existence, as their own existence depends upon it. In other words, the 'obligation' to protect nature cannot be a top-down moral imperative; it is more of a survival strategy, which begins by considering our inseparable relationship with other earthly beings who constitute the land where we belong. Only when we physically feel the repercussions of an action do we tangibly cultivate the responsibility for it; hence the grand comeback of Dewey-an empiricist pragmatism: 'you have to feel the consequences of your action before you are able to represent to yourself what you have really

done and become aware of the terror of the world that has resisted your action' (Dewey, 1938; rephrased in Latour, 2017: 139). The novelty of this 'down-to-earth' approach lies precisely in this argument that what we do 'for the environment' should not be considered a global order that should be mind- lessly followed; the logic of *why* we do it is fundamentally derived from our everyday *experiences* and *senses* of our immediate surroundings, or the territory where we belong.

Consequently, posthumanists' emphasis on empiricism – being sensitive so as to be responsible for our actions – effectively endorses the idea of 'local' that can be *felt* among the people who physically inhabit a particular territory and piece of land that they grew to love and defend, powered by their feeling of feedback from the land: irregularities in weather, particles in the air or the physical status of trees. The new rise of localism is clear in the context of environment politics, as scholars advocate that 'small is beautiful', which allows people to engage with nature in the most intimate way, until they start car- ing for what they can actually see and feel (Bargués-Pedreny and Schmidt, 2019; Bennett et al., 2016; Chatterton, 2016). Given that built environments are often the medium through which we experience 'what surrounds us' (e.g. architecture and design influence how we feel and think), and that cities are essentially concentrated human habitats where we collectively encounter the world of 'the other' very strikingly (e.g. species affected by the urban form, or extreme climate events that destroy human settlements in return), there seems to be abundant opportunities for urbanism and planning to engage with post- humanist ecopolitics, especially concerning its sensibility-driven, empirical environ- mentalist activism.

Implications of posthumanist ideas in urban planning

In this section, I briefly outline three key ideas that can be useful for urban planning and policy, inspired by the philosophical and theoretical insights from the posthumanist eco-politics literature. Essentially, what makes posthumanist ecopolitics different from previ- ous environmental politics is the points discussed above: (1) 'nonhumans as social minorities' – blurring the nature/culture dichotomy, in attempts to advocate for non- human voices; (2) 'staying with the trouble' – recognising the webs of our material dependency on non-human critters that inspire us to cultivate response-ability and (3) 'feel it to act' – emphasis on immediate empirical experiences and sensory values as major sources of environmental activism. I discuss in detail how these ideas provide potential venues for planning/policy interventions that radically reshape how we think of nature in designing and planning built

environments – especially in 'de-centering' the human. I provide examples of how planners can execute or operationalise these ideas in specific practical contexts.

Environmentalism as a mundane political affair: advocating for 'neglected things'

An important contribution that posthumanists have made is debunking the essentialist categorisation of human/non-human. Instead of believing in the 'soul' – that we com- monly think only humans can have – they ask us to look at relational aspects of social functioning and how our relation to one another brings out what we call 'agency'. Agency is not a quality that is inherent to one's being; rather, only through the interactions and relations with others can it come to life. In describing a posthumanist understanding of the world, Latour (2017) highlights the Disney-an retelling *Beauty and the Beast*, where the entire storyline could not have taken place if not for the roles of 'things' – teapots, cups, wall clock and candles. What we often call 'luck' is an accidental occasion in which your intention happens to collide with others' intentions and things happen as you wished. When everything is in control and unfolds according to our plan, we often take for granted a lot of the little agents that contributed along the way. It is when things do not pan out exactly the way we intended that we start tracing back 'what happened' and reflecting on all the factors that might have played a part: the weather, the train, the clock, the table – we start to care what surrounds us. The Anthropocene, according to Stengers (2015), is precisely that moment of reflection; the intrusion of Gaia (e.g. cli- mate irregularities, extreme climate events, natural disasters) is a stimulus that radically pushes us to think about the 'neglected things' and their voices, which have been silenced under the human-centric understanding of the world.

Considering non-humans as social minorities allows us to approach environmental- ism simply as an extension of our usual mundane political efforts to represent neglected voices. Working for the poor, underrepresented and silenced has long been regarded as a core responsibility of planners as public servants. Notably, Paul Davidoff's (1965, 1975) advocacy planning provided a framework for what it means to be a planner when ine- qualities and injustices are rampant in the given socioeconomic power relations. As a lawyer and planner, Davidoff looked to expand the representation and participation of traditionally excluded groups in the political arena, by challenging planners 'to promote participatory democracy and positive social change; to overcome poverty and racism as factors in society; and to reduce disparities between rich and poor, White and Black, men and women' (Checkoway, 1994: 139). Picking up that baton, feminist planning writers, such as Snyder (1995) and Roy

(2001), questioned how the definition of ‘the public’ is constituted and legitimised, especially regarding whose voices have been considered important enough to be represented in the current understanding of ‘the public’. At the heart of feminist planners’ advocacy of the marginalised/underrepresented/subordinated is the postmodernist, anti-essentialist critique on existing social categories, especially what Butler (1990a, 1990b) offered on ‘gender’. The reason women should be given a voice in the public sphere is the new agreement that they are no different from those who are currently labelled ‘men’ – precisely because these labels are artificial and socially constructed. So if Butler and other feminist postmodernists (Nicholson, 1989; Young, 1995) succeeded in social movements by challenging the essentialist dichotomy of women/men, how about considering the ecologist/environmentalist movement as a con- tinuation of that work – an effort to widen the notion of the ‘public’ that planners are supposed to serve? Just as we have fought for the victims of essentialist categorisations – slaves, women, people of colour – de-essentialising categories is the beginning of advocating for the agencies that we weren’t able to perceive under our old paradigms that often justify (rather than question) the status quo. Put this way, posthumanist ecopolitics, especially in its effort to eschew the essentialist notion of human/non-human, should be considered an extended version of the planner’s job as advocated for the rights of the currently underrepresented (Metzger, 2016; see also Hillier, 2015; Houston, 2019).

Metzger’s (2016) work particularly focused on how more-than-human planning can be directed towards developing a sensibility that responds to the question of representing ‘minorities’ in planning processes: ‘How could planning methodology be modified so as to enable the design of apparatuses that articulate not only more-than-human attachments but also other-than-human interests?’ (p. 590). A radical example of ‘considering nonhu- man agencies as social minorities’ includes acknowledging the ‘personhood’ of rivers and forests. Recently, there has been a lawsuit where the plaintiff was the Colorado River; the lawsuit was filed by the environmental organisation Deep Green Resistance, which claimed that ‘environmental law has failed to protect the natural environment because it accepts the status of nature and ecosystems as property’ – and hence violating the river’s right to flourish (Riederer, 2018). Similarly, in February 2019, citizens of Toledo passed the Lake Erie bill of Rights Charter Amendment, recognising the lake’s right ‘to exist, flourish, and naturally evolve’ (Martin, 2019; see also Boyd’s 2018 book entitled *The Rights of Nature*). The lake provides drinking water for 11 million people, and runoff pollution – which occurs when rainfall washes fertiliser on farmlands into streams – is a major threat that could make water

toxic to fish, wildlife and people; acknowledging the legal rights of the lake to flourish is directly related to the everyday life and health of communities nearby. In academia, writers such as Youatt (2017) are working on the implications of recognising personhood and the rights of nature in global environmental politics, discussing the case of Ecuador where the government enshrined the rights of nature ('Pachamama') in its national constitution, as well as the case of New Zealand which created legal personhood for the Whanganui River.

At the same time, as for the examples that are more applicable to everyday planning practices, increasing interests in the role of 'nonhumans' in urban design seem promis- ing. Geographers such as Grove et al. (2019) are carving out a new space for how 'design thinking' can offer more effective ways of acknowledging non-human agencies and their representation in cities. The way we design space inevitably mediates how we perceive our immediate surroundings, as well as how these material realities substan- tially affect our moods, thoughts and philosophies about the world. In that sense, the efforts to interject 'more-than-human' philosophies to urban planning should be linked up with the rise of ecological urbanism (Lister, 2017; Mostafavi, 2010; Steiner, 2011) that not only acknowledges landscape architecture's initial dedication to the well-being of ecological systems (beyond human interests) but also recognises the social responsibilities of urban design as an effective mediator between the 'natural' and the 'social'. The 'ethical performance' of urbanism projects is particularly noted in Mostafavi's (2010) work, where he considers the fragility of the planet and its resources as an opportunity for cities to define a new approach that establishes our sensibility and response-ability towards the feedback from nature. Material examples of such work include the North East Coastal Park project in Barcelona, which juxtaposes waste-man- agement infrastructure and public green space on a beachfront site – through which people can *see* where their garbage eventually ends up; Fresh Kills Park in New York City which transformed a former landfill site into an ecological park that facilitates the interaction between natural habitats and human activities through three principals – (1) programme (for recreation activities), (2) habitat (specifically for species preservation purposes) and (3) circulation (for enhancing the connectivity across different areas within the park). Maller's (2018) work is especially enlightening in the sense that the pursuit of more-than-human ecology can also be practically beneficial when joined with healthy urban environment agenda. In these discussions, environmentalism here is no longer an optional, ad hoc charity after sorting out the 'social' priorities; it has to be an integral part of planners' everyday decision-making processes, asking whether the voices of non-humans

(i.e. ‘nature’) are rightly reflected in each development, infra- structure project, planning layout and building design.

Situating human intervention within non-human surroundings, contexts and systems

Another important contribution of the posthumanist ecopolitics literature is its remarka- ble storytelling of how nature has always existed without human interventions, high- lighting the historicity of nature and the vastness of the non-human world that we’ve never known or failed to acknowledge. Their demonstration of the divergent life-worlds of bacteria, horseshoe crabs, coral reefs, mushrooms, trees and forests – and their immensely long historicity (horseshoe crabs alone have 450 million years on Earth!)[2] – allows us to realise that we, as humans, are entirely dependent on the entangled ecosys- tem webs created by non-human critters and their distributive agency. The reality of living in, or being materially dependent on, this world of entanglements and interdepend- ency requires us to become more responsible for our actions, because human interven- tions that are destructive to other species *not only* dishonour the historicity of their existence and contribution to creating the world we live in *but also* jeopardise our own material existence which cannot be physically possible without them. In this effort to formulate nonessentialist norms that are driven by our material reality of interdepend- ency, posthumanist ecopolitics shares a significant common ground with care ethics, which attempts to unearth normativity out of the vulnerability and self-*in*sufficiency that we all share as material beings. Especially in the Anthropocene, where extinctions of plants and animals – and their symbiotic relationship with other species – are occurring at an alarming rate (McFall-Ngai, 2017), we no longer have the luxury of mulling over whether our actions can have impactful outcomes. More as a survival strategy than obe- dience to a moral imperative, we have to embark on ‘whatever actions’ (Bargués-Pedreny and Schmidt, 2019) are respectful to the existence of other species – by paying attention to nature’s feedback and learning to situate our intervention in harmony with our non- human surroundings, contexts and systems.

Recent initiatives in the architecture or design of built environments – the ‘hardware’ aspects of planning – are showing sincere engagement with the Anthropocene and de-centring the human in urban planning and development. The main theme and ‘manifesto’ for the Architecture Biennale of Venezia in 2018 was ‘Freespace’, a concept that tries to embrace nature and Earth as one of the ‘clients’ that architects should *serve* and design *for* – not as a

static background to be cultured or civilised: ‘We see the Earth as Client. This brings with it long-lasting responsibilities. Architecture is the play of light, sun, shade, moon, air, wind, gravity in ways that reveal the mysteries of the world. All of these resources are free’ (Farrell and McNamara, 2018). Interpreting this prompt in a creative and engaging way, the Australian Pavillion – a national exhibition participation at the Biennale – proclaimed their presentation theme *Repair*, acknowledging the arrival of ‘new nature’ or ‘novel ecology’ that ultimately debunks the notion that nature is some- how the external ‘other’ or can be set apart from ‘human’. As the exhibition curators Mauro Baracco and Louise Wright (2018) state: ‘Repair exhibits architectural provoca- tions alongside an installation of thousands of undervalued and threatened plant species from south-east Australia, revealing what is at stake when we occupy land, and refram- ing how we see and value our environment and architecture’s role’ (p. 13). Especially in the context of urbanisation in Australia – whose history is shorter than any other place on the planet – the historical dynamics between First Australian culture, European Western heritage and the land/nature is most intense and visible. Urban designers, architects and planners in Australia, working in one of the most diverse and ecologically sensitive land- scapes in the world, often find themselves juggling different values, identities and cul- tures; Australian cities are ‘bordered by remnant vegetation and often connected with large natural systems, as well as built over the traditional cultural landscapes of our First Nations peoples’ (Baracco and Wright, 2018: 22). In this context, the concept of ‘repair’ is useful in that it connects what already exists and what is to come, rather than scrapping the past for something new that has nothing to do with its surrounding context. You con- sider repairing something only when you see an enduring value (O’Loan, 2018) – when you really *care* about the history of the place. Repairing is a commitment to history, promising the past that we won’t forget it as we step towards the future.

The theoretical framework for regenerating the Arden Macaulay area, a 50-hectare site in the north of Melbourne, is considered an exemplary model that genuinely reflects the concept of ‘repair’.[3] Once a swamp and chain of ponds, the site has a history as dynamic as any trajectory of urbanisation can ever get: ‘Its longer-term indigenous his- tory was a place of meeting, of exchange, of abundance. Its shorter-term history is one of western industrialisation, where polluted swamps and broken waterways were eradicated or channelised for economic gain’ (Monash University Urban Laboratory, 2018: 211). With a reflective planning and design approach that is sensitive to the surrounding eco- system while honouring the historicity of nature and cultural heritage – of First Australians and the site’s

industrial past – the project attempts to actively 'repair' the place in the sense of making a conscious intervention that respects its past while looking to what is to come. Especially given the context of land use planning in Australia with its (post) colonial settings (Porter, 2006), it would be critical for the project to be reflective and conscious of respecting already existing historical agencies at play. Increasing acknowl- edgement of this aspect, which has now become frequently observable in landscape architecture practices in Australia, seems promising and encouraging.[4] The question is: How to connect the efforts for 'environmental' repair *with* the efforts to re-establish the cities' relationship with their history and heritage? Ultimately, the common thread would be about contextualisation of any human intervention within the existing physical space, its natural landscape as well as its cultural agencies that are already-in-place.

Let us recap: How would this 'posthumanist' approach to planning in the Anthropocene – especially with its emphasis on rejecting the essentialist dichotomy between human/ non-human – differ from previous 'environment-friendly' urban development and plan- ning? Two particular aspects can be noticed: (1) contextualisation of the intervention, accounting for its existing cultural and ecological history – 'caring for' the historicity of the place and (2) a holistic/systemic approach to the site development, accounting for the connectivity and interaction effects among the parts of the whole. More and more archi- tects and landscape designers are becoming aware of the need to engage with the actors of larger scales, as the specific material/ecological problems that they face on the project sites are inevitably linked with the surrounding areas that are not necessarily subject to their project's control. Planning is inherently a multidisciplinary operation that involves architects, designers, engineers and social/environmental activists, wherein government planners as civic servants balance these different perspectives and expertise and commu- nicate them with the general public or, more specifically, the concerned inhabitants whose lives will be impacted by a particular project or intervention. What distinguishes planners from architects or landscape designers, therefore, is that they are required to view the operation at a larger, city-level scale. The role of planners, especially for projects con- cerned with environment/ecosystems, is to examine how these environmentalist interven- tions are situated within the city-wide context, by asking these questions: How are these projects integrated into the ecological and cultural surroundings and their functioning, and what are the potential relationships between the specific project sites and the neighbour- ing areas? How can these projects function synergistically in relation with the existing urban fabrics,

either conceptually influencing them or being physically intertwined so as to create more pivotal and collectively driven outcomes – rather than leaving the projects as independent islands? Planners will be ready to provide more synthetic accounts of 'big- ger pictures', supporting contextually competent built environment interventions that are sensitive to the surroundings and their cultural/ecological historicity.

Political mobilisation based on empirical experiences

Finally, a core theoretical argument of posthumanist ecopolitics writers is the importance of empirical/physical experiences in formulating a political solidarity or mobilisation for action (i.e. 'feel it to act'). New materialist politics writers, such as Bruno Latour, Nootje Marres and Jane Bennett – who all reject the essentialist dichotomy between human/non- human – seem to draw their theoretical insights from Dewey-an empiricism, where the feelings and physical experiences of our immediate surroundings become a condition for constituting a 'collective' or the 'public'. Interestingly, in the context of environmental politics, the challenging environmental degradation itself actually becomes an opportu- nity in which we all rediscover our material fragility, vulnerabilities and self-insufficiency – and our inevitable interdependence on one another. The material reality or physical constraints that we have forgotten in the modern times – when we believed that our dreams, imaginations and 'soulful' intentions will take us wherever we want to be – is now coming back to us with the 'intrusion of Gaia', sometimes brutally, by physically undergoing extreme climate events. As Bennett (2010: 100) notes, 'the public' (according to Dewey) can only exist in the face of/in response to a collective problem or an issue:

> Dewey presents public as a confederation of bodies, bodies pulled together not so much by choice (a public is not exactly a voluntary association) as *by a shared experience of harm* that, over time, coalesces into 'a problem' . . . a public does not preexist its particular problem but emerges in response to it. (Emphasis added)

The solidarity amongst the public, in this sense, is formulated by the external condition in which we accidentally find ourselves; or, as Simone de Beauvoir famously said, 'To exist is to dare to throw oneself into the world'. Latour's (2017) emphasis on 'feeling the reper- cussion of our actions' as the basis of initiating pro-environmental politics can be under- stood as similar; the driving force behind any 'eco-friendly' choices, or the political motivation behind environmental politics, cannot be some abstract, top-down moral

imperative; it can only be activated through collectively facing a shared material reality. This emphasis on empiricism renews the importance of ‘the local’, since a more graspable scale can allow the kinds of ‘empirical solidarity’ based on shared physical experiences; for the actual climate conditions to be collectively shared, there has to be a limit to geo- graphical scale. In this context, the role of urban planning is greater than ever, as cities are often considered a good ‘local’ site that can initiate policy agendas that can become influ- ential at the global/planetary scale (Jon, 2019). Environment politics writers, such as Bulkeley (2005), specifically note how cities are becoming the leaders in tackling global warming and environmental degradation based on their territorial experiences.

Numerous research findings highlight how climate irregularities and extreme weather events – tornadoes, cyclones and wildfires – influence the public perception on climate change (Lang and Ryder, 2016; Zanocco et al., 2018). Most recently, the results of a poll conducted by the National Opinion Research Center at the University of Chicago indicated that 74% of Americans said extreme weather in the past 5years – hurricanes, droughts, floods and heat waves – has influenced their opinions about climate change, concluding that ‘personal observations of real-term natural disasters and the weather around them have more impact than news stories or statements by religious or political leaders’ (Knickmeyer et al., 2019). Furthermore, the recent urban climate action initiatives in Midwest American cities exhibit how the shared experiences of certain climate conditions can instigate policy change. Dubuque, Iowa is a great example: the city’s frequent and severe experiences of flooding inspired its leadership to climate action (Buol, 2018; Vock, 2014). Dubuque now has concrete plans to deliver the reduction of 50% of greenhouse emissions by 2030 and launched the Bee Branch Watershed Project, which restores the buried creek and neigh- bouring floodplain – incorporating bio-island, rain gardens and bio-swales (landscape ele- ments that control surface runoff water). Tulsa, Oklahoma – a traditionally conservative town fuelled by the oil economy – is a controversial example, where the physical conse- quences of climate change (more severe/frequent flooding and tornadoes) triggered grass- roots climate education and adaptation initiatives despite political barriers still being very present. Tulsa environmentalists are using the words ‘extreme weather’, rather than ‘cli- mate change’, to discuss policy avenues with climate naysayers – who constitute a political majority. Linked with the practical agenda of developing stormwater facilities (that are better suited to chronic urban flooding), Tulsa is full of parks and green spaces – including Mingo Creek, whose ecological restoration was rendered possible thanks to the cata- strophic flood

event that destroyed more than 6000 homes (Greenblatt, 2017; Mazur, 2016; Patton, 2009). These examples show a glimpse of how anti-essentialist ecopolitics' empha- sis on empiricism – 'feel it to act' – would look in actual urban political contexts, where activists and planners turn the city's territorial climate experiences into momentum to col- lectively rethink our relationship with nature.

However, local climate experiences do not always automatically translate into political actions (McAdam, 2017). While extreme weather events themselves do influence public perception on climate change, it is often adjusted by existing political orientations (Zanocco et al., 2018). Can this collective experience or 'feeling' the physical reality of climate change really push pro-environmental initiatives in urban planning? How can cities, as the actual local sites of experiencing physical consequences of climate change, become leaders of shaping a global policy discourse – in a way that favours a sincere engagement with planetary environmental degradation? If planners, taking cues from posthumanist ecopolitics, were to create built environments that integrate nature as an essential, internal component (rather than an external element that exists in greenbelt areas of urban peripheries), they should learn to contextualise the abstract idea of 'nature' or 'environment' in a way that concretely demonstrates how our everyday urban experience is physically intertwined with the status of the ecosystem and its functions. More often than not, extreme weather events are good occasions to introduce this contextualisation of pro-nature ethics, since the common (environmental) challenge that afflicts a certain geographical territory can become a source of solidarity for political action. Even in the most politically conservative places, the consequences of climate change have been equally loud and clear, offering significant opportunities to slip in planning initiatives or policy discourses that are often categorised as 'progressivist' or 'liberal'. Planners should be able to capitalise on the 'intrusions of Gaia' as catalysts for change, situating the pro- environmental agenda in the physically/geographically relevant (or place-based) context that the city inhabitants can better resonate with based on their empirical experiences.

Conclusion

In the Anthropocene, we are finally physically experiencing the consequences of our actions. As Serres (1995 [1990]) envisioned, the era of humanist thinking, which muted and silenced the voices of non-humans, is ending, as these underrepresented agents' activities are louder than ever – extreme climate events and frequent natural catastrophes are the proofs of that

signal. ‘Slaves never sleep for long’, Serres writes; ‘This period is coming to an end, now that awareness of things is violently calling us back’ (p. 39). In this historical moment, posthumanist ideals may be no longer far-fetched or ‘too hippie’ for mainstream politics. As more and more political theorists engage with a new materi- alism that challenges the modernist dichotomy of human versus non-human, writers in the field of urban planning – Rydin (2014), Beauregard (2015) and Houston et al. (2018) – have also embarked on exploring what that would imply for planning theory. To strengthen this body of work, in this article, I decipher the theoretical thought processes behind the posthumanist or more-than-human ecopolitics, especially highlighting the anti-essentialist aspects of their philosophy that set them apart from the old ecology movements, where we had to accept pro-nature ethics as a given set of rules to follow.

How is posthumanist ecology anti-essentialist? Above all, as its label ‘posthumanist’ implies, it fundamentally questions the essentialist division between human/non-human and culture/nature, noting how they are intricately intertwined with one another through our co-development (or ‘becoming-with’) processes. The story of how we came to become what we are today cannot be told without the roles of non-humans; our material being itself is a product of historical evolution from microorganisms and, in a more contemporary context, our everyday decision-making (or ‘agency’) is often influenced by different ‘nudges’ from non-human agents, either atmospheric weather patterns or digital gadgets that we interact with from the moment we start our day. Second, posthu- manist ecology does not impose environmentalism on us as an essentialist moral imper- ative; rather, it focuses on demonstrating how much we are dependent on ecosystem functions and all the non-human ‘ancestors’ who render possible the material world in which we inhabit. We *learn to be*, rather than have to be, response-able to the feedback, reactions and voices from the non-human world, as we start becoming more aware of the fragility and materiality of our bodily existence whose destiny is entangled and interconnected with the destiny of other species that are at the brink of disappearing precisely because of our irresponsible interventions. Finally, inspired by pragmatist empiricism that rejects any *a priori* conception of values, posthumanist ecology empha- sises the empirical and sensory experiences of our immediate surroundings, arguing how our pro-environmentalist actions should be fuelled by – and cannot be discon- nected from – our everyday experiences of the world and the environment. This implies that ‘love for nature’ is something to be cultivated, starting with caring for our everyday interaction with local surroundings.

Drawing from these anti-essentialist, posthumanist philosophical grounds, this article applies their insights within the context of planning theory and practice. During the past three decades, the planning theory literature predominantly focused on the discursive or communicative aspects of planning (e.g. public roundtables), as 'talking' – or linguistic articulation and communication – was deemed necessary for all decision-making pro- cesses. But this priority often neglected the material aspects of planning, which were largely ignorant of how our sensory experiences of built environment – shaped by spatial design or organisation of space – can affect how we think and form opinions. Furthermore, it was more or less 'human-centric' in that we automatically assumed that it is OK to carry out a decision if 'the (human) public' arrives at a discursive consensus – regardless of how those decisions might have negative consequences for the environment or the non-human world. The 'material turn' or 'more-than-human' framing of planning signals a new direc- tion for planning practices in that we should no longer ignore the material aspects of the urban built environment – where our physical interaction with nature, the environment or non-human living beings is the most intense and acute. As a continuation of this discourse, I argued for planning practices that (1) consider non-human species as social minorities, (2) recognise the webs of our material dependency on non-human critters and (3) activate political mobilisation based on inhabitants' empirical experience of their immediate sur- roundings. The ultimate question that I would like to pose to planning theorists and practi- tioners is as follows: *How can we envision and execute the kinds of urbanism that not only awaken our (humans') sensibilities toward nature but also purposefully serve non-human agents as important 'stakeholders' in rendering the urban form or conceptualisation of planning?* In the Anthropocene, planning theorists will have to place the environment at the centre of their visions and debates, since climate change and irregularities – again, the non-human factors in planning – are increasingly taking hold as powerful agents who phys- ically affect how we experience and design cities.

Notes

1. This tradition has been well embraced by the works of geographers, such as the works of Whatmore (2006, 2017; Head, 2016), who offers important insights into what the rise of 'material turn' means to human geography discipline, especially with regard to how we ('humans') establish our relationship with our non-human surroundings.
2. More detailed stories of the astounding vastness of the more-than-human worlds can be found in the book, *Arts of Living on a Damaged Planet* (2017), edited by Tsing, Swanson, Gan and Busbandt.
3. The examples noted here focus on the urban context, in order to remain relevant to everyday urban planning practices. Other projects that were showcased under the *Repair* exhibition also included Clifton Hill Rail Project

(near Melbourne, Victoria), which transformed a for- merly polluted space (under the railway bridge) into a public park with 48,000 indigenous plants.

4. This trend of respecting First Australian heritage and culture is increasingly observable in urban landscape architecture projects in Australian cities. Exemplary efforts include Yagan Public Square (Perth CBD, Western Australia), whose initial concept was formulated in close consultation with Whadjuk Working Party and South West Aboriginal Land; Point Nepean National Park Masterplan (Mornington Peninsula, Victoria), which showed leadership in developing the precinct in collaboration with Boonwurrung traditional owners and Parks Victoria.

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