

Introduction

Senses of Place in the Face of Global Challenges

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It is now well established that humans are the most powerful influence on the environment. The scale, pace and intensity of human activity is fundamentally altering earth's climate system (IPCC, 2014) and driving global biodiversity and ecosystem decline (IPBES, 2019). Simultaneously, new forms and patterns of mobility are emerging and accelerating in a world driven by globalised market forces, new technologies, media transformations and related cultural trends of late modernity (Stokols, 2018; Boccagni, 2017; Cresswell, 1996). Indeed, during the final stages of preparing this volume we are experiencing a global pandemic of COVID-19 that is reshaping society – from the way we travel to how we relate to one another (see the Preface). While many of the global challenges addressed in this volume are not new, they are accelerating to such a degree that they are challenging our sense of 'ontological security' in the world, a concept that has been useful in international relations research, and most recently climate change research, to articulate relationships between identity and security (Farbotko, 2019; Kinnvall, 2004). Our expectations for the stability and continuity of our habitats and lifestyles are increasingly being challenged. Management and governance systems, designed for twentieth-century problem-solving, are no longer up to the task of addressing the coalescence of multiple global challenges and their synergistic effects on everyday life (Elmqvist *et al.*, 2019; Biermann *et al.*, 2012). Individuals and groups must face the challenges of environmental change, migration, technological transformations, energy transitions and changing nationalist agendas, among other global forces, concurrently within their life worlds.

This book addresses the vital question of how to navigate the contested forces of stability and change in a world influenced by multiple interconnected global challenges. We propose that senses of place is a pertinent concept for supporting individuals' navigation of these contested forces. The book is a timely addition to recent compilations advancing theories, methods and applications of place and place attachment (Manzo and Devine-Wright, 2021) in that it strives to deal with the multiplicity of global challenges and justify how and why they force us to consider plural, dynamic and rapidly changing forms of sense(s) of place. We encourage scholars to rethink *how to theorise and conceptualise changes in senses of place in the face of global*

challenges that are rapidly moving ecosystem thresholds and altering the social fabric of global societies. We make the case that our concepts of sense of place need to change, or to be conceptually revisited, given that our experiences of place are changing. People–place bonds are increasingly configured within a dense and changing web of relations: between self and others; between the ‘inside’ and ‘outside’ of a given locale; between the past and present of a place; between the material (e.g. the body, architecture, objects) and the immaterial (e.g. discourse, affect, memories); among the cultural meanings, economic dynamics and biographical experiences of a given environment; between institutional regulations and the quotidian needs and desires of heterogeneous populations; between capacities for collective agency and political structures.

In this introduction, we provide a short historical context for the varying and evolving understandings of sense of place, emphasising a shift from its essentialist origins to more progressive and plural understandings. We then make the case for resignifying existing sense of place constructs to account for interfaces between changing senses and changing places. After presenting the ontological and conceptual bases of senses of place, we present the core contributions and insights from the book. In the conclusion to this volume, we reflect on the scholarly contributions in each section of the book and critically discuss ‘how we navigate’ multiple and changing senses of place in the face of global challenges. We consider different governance and planning options for navigating plurality and change in the twenty-first century, identify crucial research gaps and recommend important future research directions for place scholarship.

Sense of Place in Historical Context

The term ‘sense of place’ was first popularised in the 1970s, in large part as a reaction against high modernist thinking and the attendant hubris that humans could exert masterful control over the world and human affairs through science, technology and instrumental thinking (Williams and Miller, 2021). This critique arose as part of a ‘humanistic’ subfield of geography (Tuan, 1974) where sense of place was presented as a corrective to the dominance of quantitative ‘spatial science’ in geography, which critics argued diminished the concept of place to mere technical or locational considerations and emptied places of essential meaning, affect and identity (Cresswell, 2013). Instead, drawing on the philosophical approaches of phenomenology – which seeks to uncover the essence of things – sense of place offered a way of asserting the *essential* nature of place as a source of stable people–place bonds, meanings and identities in the face of the mid-twentieth-century transformations of modernisation, urbanisation and commercialisation (Relph, 1976). The highlighting of places’ authentic and essential qualities responded to a presumed human need to have roots in stable and coherent places, and to give moorings to our identities. Likewise, sense of place attracted particular attention within architecture, planning and related fields as a way to reveal the authentic

experience or character (or spirit) of a place, often premised on the idea that places have essential or genuine meanings, which through commodification and globalisation are at risk of being lost (Dovey, 2016; Norberg-Schulz, 1980). A pivotal feature of this humanistic conception of sense of place was to assume stability and sedentarism as the normal or preferred condition of people–place relations (Di Masso *et al.*, 2019).

The humanistic-phenomenological approach began to lose favour with the advent of more critical and constructionist thinking in the social science in the 1980s. This pushed sense of place concepts towards so-called progressive-relational approaches, often associated with radical, post-structural geographers (e.g. Cresswell, 2013; Antonsich, 2011; Pierce *et al.*, 2011; Massey, 2005, 1991). From a relational perspective, humanistic geography wrongly conceived sense of place as a product of a bounded, localised, fixed and subjectively experienced idea of place. Among a more critical school of human geographers, phenomenology was notably inattentive to social structure and power and the implied insularity and stability of sense of place (Harvey, 1996). Challenging the essentialism (stability) underlying the phenomenological perspective, human geographers have instead characterised sense of place as a progressive, extroverted, relational, networked, fluid, and culturally and politically constituted phenomenon (Di Masso *et al.*, 2019; Raymond *et al.*, 2017b; Cresswell, 2015; Massey, 2005).

The sense of place discourse has been built largely on a legacy of valorising stability and rootedness and presuming this is a desired end state (Williams and Miller, 2021; Di Masso *et al.*, 2019; Lewicka *et al.*, 2019). The tendency for people to seek spatial moorings for ontological security and a sense of continuity (Lewicka *et al.*, 2019) is supported by substantial empirical evidence. At the same time, we challenge the assumption that this is necessarily true in all contexts, places and moments in time, and recognise that there has been movement from an essentialist to a more progressive perspective on place and place change in the mainstream sense of place literature. This relational view is increasingly important in areas such as migration, refugee studies and the impacts of mobility on everyday life (Di Masso *et al.*, 2019; Seamon, 2017), and has made significant inroads in areas of environmental planning (Horlings, 2018) and ecosystem management (Raymond *et al.*, 2017b). From a relational perspective, the question is not what sorts of stable and authentic meanings, emotions and identities are attached to a place, but how we can conceptually or empirically understand how people go about fashioning their world into meaningful places. This fashioning involves both material and embodied practices through which people interact with and physically transform places (e.g. building homes, streets and cities), as well as the socio-political and discursive practices through which they make and contest places, their subjective meanings and their ownership (Stenner *et al.*, 2012). Such place-making actions vary from the everyday acts of individual consumers (e.g. buying local, or patronising a regional shopping centre) to the potentially more consequential and deliberate acts of communities, corporations and government agencies (e.g. developing and promoting tourist regions, or gentrification and urban renewal projects).

Why *Senses* of Place?

As an underlying premise of this book, the global challenges and transformations that once animated early geographers have since greatly accelerated, intensified and expanded in scope and scale to become truly global challenges (Steffen *et al.*, 2015). This dynamism has made the more relational, fluid and plural conception of senses of place ever more salient for addressing these contemporary challenges. Various sense of place concepts are now deployed across ever wider spheres of scholarship as conceptual tools for grappling with rapid and large-scale social and environmental change (e.g. Schlosberg *et al.*, 2020; Quinn *et al.*, 2018; Stewart *et al.*, 2013).

By ‘pluralist conception’, we mean an epistemic attitude that is sensitive to the multiple knowledge-production strategies and conceptualisations that try to account for how senses of place are forged nowadays, and which acknowledges the varied and rapidly changing panorama of place experiences featured in today’s globalised (globally sensed) world. Taking up a pluralist conception in this book is especially fitting because rapid changes to social and environmental conditions disrupt and/or reshape people’s bonds to various places, provoking place-related conflicts and place-protective behaviours, and highlighting the politics of place. Pluralising sense of place offers scholars a powerful lens for translating these large and complex global challenges into multiple consequences relevant to local communities. It does this by helping to ground the interactions between societies, nature and technologies at a place-based, localised scale where the interdependencies of aspects of systems can be made traceable. In addition, recognising multiple *senses* of place offers a way to integrate the interacting material transformations of the ‘great acceleration’ (Steffen *et al.*, 2015) with the changing and competing senses of belonging and identity that contribute to culture, society and a sense of well-being. For example, in regard to ecological regime shifts, we see how coral reef collapse in the Great Barrier Reef off Australia has heralded substantial changes in senses of place (Gurney *et al.*, Chapter 1), and how the disappearing urban lakes of Bengaluru, India, are transforming senses of place as well as the stewardship of places (Murphy *et al.*, Chapter 4).

Also, pluralising sense of place reminds us that what we are considering is much more variable, contested and fluid than is often recognised. By proposing a plural sense of place, we do not seek to replace earlier conceptions – the need among many for secure moorings – but it does cause us to rethink how we can accommodate those needs within more spatially complex ways of living in the world. As the world churns, anchoring ourselves and feeling secure becomes ever more problematic, because we are living in a time when various forces can contest or undermine our established relationships to places. The question before us is *whether and how contemporary life empowers us to create new connections, and to think anew about dynamic and unfolding connections and ways of being emplaced*. The ways we accomplish this are becoming more diverse, contested and context-dependent. Thus, one of the challenges of a volume such as this is navigating the differences in the meaning and use of the concept. In service of that goal, we want both to emphasise the underlying

complexity of sense of place and to direct the reader to some of the key characteristics of the concept and how they pertain to the present volume – particularly, with regard to our choice to refer to *senses* of place.

Changing Senses and Changing Places

In this volume, we consider change in regard to both *senses* of place and *places* themselves. When considering *senses*, we mean the myriad ways in which people understand, interpret and interface with the world, which involve multiple sensibilities, physical senses and embodied identities. Changing *places* refers to the new patterns of socio-spatial relations and experiences of ‘placeness’ that surface or are resignified, rescaled or revalued. Accelerating global challenges change and reshape existing configurations of people–place relations, which gain in richness, complexity, interconnectedness and, above all, plurality and dynamism (Di Masso *et al.*, 2019). We present several global challenges that signify substantial place change, from climate change and ecological regime shifts, to human migration and mobility, technological transformations, urban change and nationalist and territorial claims. For example, Lewicka and Dobosh (Chapter 13) propose a third way of understanding place bonds as ‘place continuity’, a concept that articulates place continuity and change, and recognises places as having a ‘multi-layered history’. This new concept of narrative continuity is juxtaposed to the essentialist tradition, which assumes that one’s traits remain the same despite the passage of time. Also focusing on the role of temporality in pluralising place experiences, Murphy and Williams (Chapter 2) show how climate change adaptation must transcend the usual limitations of a static, place-focused approach, to examine instead the plurality of and disjuncture between different chronological dimensions (past–present–future, rhythm, speed) that articulate climate change adaptation as a temporal reaccommodation of sense of place.

In this volume, we do not suppose a singular character of any place; nor do we wish to be nostalgic or romantic about an unchanging past in our treatment of change. Indeed, we are witnessing the dire consequences of responding to the perceived threats that change presumably heralds with ‘defensive and reactionary responses’ such as antagonism to immigrants and newcomers (Massey, 1991, p. 24). In Part II on migration, mobility and belonging, we see changing senses of place emerge in urban China through rural-to-urban migrants’ different senses of belonging to the host city (Huang, Chapter 9); in Part V on urban change, we see how processes of gentrification in Barcelona are transforming people’s subjective understandings of place change (Di Masso *et al.*, Chapter 17), and how unhoused people living on the streets in Chile are altering senses of place through public space appropriation (Farias and Diniz, Chapter 18). In this array of cases, we see ‘more progressive and outward-looking’ senses of place emerge than in previous considerations of responses to place change, which were more ‘self-closing or defensive’ (Massey, 1991, p. 24).

To demonstrate how people–place bonds dynamically change over time, Raymond *et al.* (2017a) propose that people–place bonds can be conceived as a *dynamic web of*

relations that connect mind, body, culture and the environment and have the potential to change with context (see also Manzo, 2005). This view resonates with Cresswell's (2004) argument that 'places need to be understood as sites that are connected to others around the world in constantly evolving networks which are social, cultural and natural/environmental' (p. 43). As Massey (1994) puts it, places are networks of interconnections, leading to an 'extroverted' notion of place. In this volume, we demonstrate how these synergistic relations are manifested within global challenges: for instance, climate change reshapes local forms of biodiversity (e.g. coral reefs), urban changes following 'global city' patterns (Sassen, 1991) erode previously established place attachments at the neighbourhood level (e.g. gentrification) and forced transnational migration rebuilds exclusionary borders and confinement areas separating 'us' and 'them' (e.g. asylum-seeking).

From this relational and 'extroverted' perspective, places do not have singular unique identities but multiple, contested ones that are continually reproduced through discourse and practice. Places are not so much fixed entities as the result of flows, mobilities and power relations. Nor are they bounded localities (as was typical of humanistic phenomenology), but permeable entities constituted from constellations or networks of local and global connections grounded in concrete places, practices and performances. As people adapt to living in the flux of a globalised and mobilised world, senses of place are often multicentred, and are deployed more like rhizomes than roots for organising a sense of identity across multiple places and scales over one's life course. Relational senses of place have also drawn from assemblage theory (Deleuze and Guattari, 1987) to conceptualise place as a complex, dynamic constellation of materiality, representations and performative practices, and to accentuate the interrelated socio-spatial processes of gathering, collective or distributed agency, emergence and provisionality (Cresswell, 2015; Di Masso and Dixon, 2015).

Changing Senses of Place: Overview of Chapters

Drawing on the ideas and arguments presented in this book, we understand senses of place as the plurality of place-related meanings, interpretations and values that are continuously produced, contested, negotiated, reconstructed and embodied by individuals and among collectives of people in relation to changing physical, social, political and ideational environments. These dynamic people–locational bonds are nested or embedded in other places of smaller or larger scales, and are contextualised with reference to different time–space relations. When places change, we open up possibilities for people's senses to change too, while recognising the tension with our yearnings for fixity in an increasingly uncertain world that is facing multiple global challenges. Addressing the nexus of senses of place and accelerating global challenges promises to uncover the consequences of and responses to place changes in our everyday lives. Following our initial arguments to pluralise 'senses' and problematise 'place' in the light of global challenges, we provide the following synthetic insights concerning the conceptualisation of senses of place.

Senses of Place Operate as Boundary Objects

Sense of place has been applied in various cross-disciplinary discourses, spanning research on socio-ecological systems (Masterson *et al.*, 2017), sustainability transitions studies (Frantzeskaki *et al.*, 2018) and biodiversity conservation (Hausmann *et al.*, 2016). It has many of the hallmarks of a boundary object (MacGillivray and Franklin, 2015) in that it offers the necessary ambiguity of being simultaneously concrete and abstract, allowing different interpretations of purpose and value, in order to be useful to scholars from different epistemic communities (or disciplines) (Star and Griesemer, 1989). Boundary objects allow interpretive flexibility while retaining a common theme, can take abstract forms such as shared concepts among different epistemic communities (or disciplines) and can materialise as artefacts. Senses of place, then, act as catalysts that facilitate the collection and coordination of knowledge, which is subsequently distributed in different knowledge communities (Trompette and Vinck, 2009). Boundary objects have been described as ‘playing a pivotal role in initiating and facilitating change as they are considered to be an important means of transforming knowledge and changing practice across specialist knowledge domains’ (Oswick and Robertson, 2009, p. 179).

Sense of place is embedded in particular social contexts – that is, it is located at the nexus of very specific power relations (Star, 2010) – and it has an important role in mediating different visions of sustainability (Chapin and Knapp, 2015). We contend that the pluralisation of sense to senses of place magnifies the importance of place as a boundary object, in terms of dealing with not only place contestations but also different temporal and geographical scales of people–place relations. Murphy and Williams (Chapter 2) propose that different boundaries and ontological understandings of place as time can lead to various frictions in plural settings, yet beneficially, these time–space boundaries can illuminate plural visions for desired futures in response to climate change. In regard to rapid tourism expansion in the Faroe Islands, Raymond *et al.* (Chapter 6) make the case for the pluralisation of sense to senses of place by exploring the tensions and dynamic connections between the place narratives of Faroese residents and boundary-spanning organisations (also known as ‘brokers’) such as Visit Faroe Islands. Drawing on the narratives of residents and those presented in the Faroe Islands’ Tourism Strategy 2018–2025, the authors find that multiple sets of senses of place emerge from narratives that represent different (sometimes in-between) standpoints on tourism growth and development, and from attempts by brokers and other powerful actors to filter and sort dominant meanings.

Senses of Place Reflect Multiple Layers of Place Contestation

Previous work has demonstrated that people experience different place interpretations, leading to places being sources of contest, struggle or stigma (e.g. Di Masso and Dixon, 2015; Manzo, 2014). Global challenges may multiply and intensify disputes

between different place interpretations, mobilising a plurality of altered place meanings and values through which people make sense of their environments and their physical transformations. For example, some chapters in this volume highlight how urbanisation, gentrification and commodification pressures lead to multiple, sometimes coexisting, and at other times competing or contested place meanings that need to be continually formulated and negotiated among groups of people (Manzo and Desanto, Chapter 16; Di Masso *et al.*, Chapter 17). Manzo and Desanto argue that competing discourses regarding urban development and the ethos of the city can cause a falsely homogenised sense of place, and can underrepresent the senses of place of marginalised voices in society. Di Masso *et al.* show how gentrification, among other capitalist processes in Barcelona, can reconfigure senses of place to support place-based profitable value. In these chapters, senses of place are channelled and forged through the capital-driven promotion of ‘seductive urban atmospheres’ – that is, urban landscapes aesthetically and semiotically designed to simulate authentic experiences of place that become objects of symbolic consumption. Gentrification can lead to conflicted senses of place within the individual, represented through ‘subjective knots’ such as ambivalence, hesitation, dilemmatic talk, contradiction and discursive collapse. Similarly, Farias and Diniz (Chapter 18) suggest that urban change and the commodification of urban space in Brazil leads to contradictory place meanings whereby streets are perceived as either ‘humanising’ or ‘alienating’. Such contradictory meanings of life on the streets are mediated by class structure, among other social and racial inequalities.

Message framing can also raise contestations between senses of place. Stedman and Nilson’s (Chapter 10) study of energy transitions in a rural area shows that technological innovations, economic impacts and aesthetic criteria may function as opposing meaning-making frames, raising political tensions within a community awaiting environmental change. Relatedly, senses of place often become rearticulated and resignified as they are ‘nested’ in places at varying scales, such that people’s ways of inhabiting a locale are strongly dependent on their relationship to broader areas, countries or global regions. Devine-Wright and Wiersma (Chapter 11) explicitly problematise the traditional focus of sense of place research on an a-priori scale of place when assessing the importance of place for people in communities that are shifting to renewable energy. According to these authors, senses of place are today more plural because places might be felt and thought of in the frame of a broader area, compared with external spaces or vis-à-vis smaller-scale places.

Multiple chapters in this book cover controversial elements of sense of place with respect to nationalist conflicts, social injustice, political violence, racial tensions and the commodification of urban space. Lewicka and Dobosh (Chapter 13) foreground how different ways of constructing the history of a place lead to more or less ethnocentric representations of that place, as well as to different place identifications and attachments. Bleibleh (Chapter 14) reveals how senses of place emerge through emotionally ambivalent bonds with place by Palestinians under siege, and the importance of including the political aspects of power relations in the physical and social construction of senses of place. Katju and Kyle (Chapter 15) demonstrate through

research on place belonging and the politics of self-determination how cultural and religious assimilation have shaped, altered, engendered and contested the identities of place and people of many communities in Assam, India.

Senses of Place Are Re-channelled Through Globalisation and Technological and Legal Transformations

Globalisation and associated processes of cultural adaptation have a powerful role in reshaping identities (e.g. Castree, 2004). Chong and Chow (Chapter 24) suggest that advanced media technology in representations of domestic space, combined with intensifying transcultural flows, can lead to a valorisation of ‘cultural odourlessness’, meaning the absence of national traits in cultural products. Sense of place is problematised as something that is deliberately constructed as a culturally fluid, global identity by using this strategy of cultural odourlessness.

Innovations in technology and governance (law, policy, coalition-building) can also radically change the way in which we understand and negotiate senses of place. Senses of place can become re-channelled as affective and imaginary experiences, both felt and signified through different technologically mediated sensory streams (Bork-Hüffer, 2016; Jenkins *et al.*, 2016). Technology plays various roles in unifying the experiences of places. Relph (Chapter 19) discusses how electronic media have transformed sense of place, arguing that they have not altered its neurological (i.e. brain functions telling you where you are) or ontological (i.e. having an essentially place-bound bodily existence) aspects, but they have strongly changed its personal (i.e. memories, experiences), social (i.e. knowing and being known somewhere) and public (i.e. ideological) dimensions. Olafsson *et al.* (Chapter 21) point to the multiple ways that social media can facilitate affective and cognitive socio-ecological interactions in relation to different types of experiences of nature. However, technology’s contribution to an individual’s senses of place cannot be considered in isolation from the couplings between social, ecological and technological systems.

Equally, legal transformations, such as the proclamation of new nature protection directives across the European Union, challenge us to rethink the relationships between people and place. Castro (Chapter 20) introduces the concept of ‘epistemic bonds’ (comprised various forms of local knowledge, and processes for local stakeholders’ involvement in legal processes) and asserts the powerful role of these bonds in criticising and in some cases resisting ecological changes. New laws can lead to new constructions and understandings of place, which affect people–place relationships but also affect the reception of the laws in question. However, policy frameworks can be developed to enable the expression of local senses of place. Drawing on the case of a rural World Heritage Site in South Africa, Puren and Drewes (Chapter 22) develop an alternative policy framework that supports the pluralisation of local senses of place through global policy. Rather than the top-down creation of global policy, they propose that policy development processes should align with the principles of democracy, subsidiarity, participation, integration, proportionality and precautionarity. This

framework enables a plurality of senses of place to emerge spontaneously from the bottom up, as opposed to their being categorised or universalised.

Senses of Place Help Us to Understand the Assemblages Between Social, Ecological and Technological Systems, Including Individual, Social and Institutional Processes

Globally, scholars have been drawing upon the socio-ecological systems perspective, mainstreamed through concepts such as resilience, planetary boundaries and social values for ecosystem services (Raymond *et al.*, 2014; Rockström *et al.*, 2009; Folke, 2006), as a way to respond to global challenges such as climate change, flooding and biodiversity loss. Sense of place has provided a means of exploring the subjectivity of socio-ecological systems, particularly the role of multiple place meanings in building resilience and transformative capacity (Masterson *et al.*, 2019, 2017; Stedman, 2016). Chapters in this volume draw upon the socio-ecological systems perspective in various ways. Increasingly, there is recognition that social and ecological systems are dynamically coupled with technological systems (McPhearson, 2020; MCPhearson *et al.*, 2016). With respect to technologically mediated futures, three main couplings are in need of critical examination: (1) social–ecological couplings, which refer to the linkages between access to and experience and management of urban green areas and technologies; (2) technological–social couplings, referring to the economic opportunities and constraints associated with urban sustainability solutions and issues of inclusivity, empowerment, social justice and cohesion, including safety and security related to multiple groups that use and manage smart or green solutions; and (3) ecological–technological couplings, referring to the different ways in which technologies can strengthen feedback between nature and people.

Berroeta *et al.* (Chapter 3) draw on assemblage theory to demonstrate how senses of place are generated within a complex and dynamic network of influences and reciprocal variations between subjective, social and spatial (including technological) aspects. Based on a material-semiotic approach, they reveal a ‘variable and unstable constellation’ of subjective, social, spatial, technological and political elements of place among victims recovering from a natural disaster in Chile. After a disaster, victims’ senses of place become reconstructed through interactions between historical and personal aspects (the relationship that individuals establish with space) and collective processes (government policies, or the overall modification of the surroundings and neighbourhood). Olafsson *et al.* (Chapter 21) argue that senses of place emerge from dynamic couplings between society, ecology and technology. This plurality is essential to deal with the multiple ways in which social media engage people with place. Devine-Wright and Wiersma (Chapter 11) explore the concept of ‘place–technology fit’, implying that the acceptability of certain technologies is dependent on how they are interpreted symbolically. They show how auto-photography can be used as a visual method to explore the heterogeneous, multiscaled and constructed nature of place. Von Wirth and Frantzeskaki (Chapter 23) reflect upon the role of urban experimentation in

the co-generation of senses of place for a case in the city of Rotterdam, the Netherlands. They find that new senses of place tend to be an outcome of discourses about the qualities of iconic buildings, as well as the outcome of social interactions, practices and constructions evolving in-between actors. Active urban experimentation provides a crucial arena for understanding the interactions among people, urban environments and technologies on a localised scale, and opens up possibilities for negotiating shared visions for transformations towards urban sustainability.

Senses and Places Emerge from and Are Changed by Different Temporal Dynamics

One of the core arguments of this book is that place scholars need to be open to new and sometimes unfolding senses of place that emerge in response to global challenges. A deeper consideration of the plurality of senses of place demands a consideration of the temporal dynamics of place. Previous works highlight that sense of place can change in response to the physical qualities of place (Marshall *et al.*, 2019), and that diverse temporalities might challenge the utility of place as a platform for collaborative adaptation (Devine-Wright, 2013; Lyon and Parkins, 2013). However, this book reveals that there are different temporal layers to place, resulting in different responses to environmental change. Drawing on a longitudinal study, Gurney *et al.* (Chapter 1) show how people develop heightened senses of environments that become threatened by rapid environmental change. The perceived impacts of coral reef decline along the Great Barrier Reef between 2013 and 2017 heightened senses of pride, identity, attachment and biodiversity, while more tangible senses such as lifestyle, aesthetics and scientific value decreased.

Murphy and Williams (Chapter 2) find that residents adopt different visions for and positions on climate change adaptation depending on their ontological understanding of time-space dynamics, which in turn challenges a singular, monistic notion of 'sense'. The temporalities identified by these residents were: working in place, where inhabitants interpreted the consequences of climate change through their work; sense of historical trajectory, where inhabitants interpreted consequences through narratives of the 'golden past'; and temporalities in the fundamentals of nature, where inhabitants narrated impacts through different ontological understandings of the nature of time. Similarly, Murphy *et al.* (Chapter 4) report that senses of place are informed by both historical dynamics and present socio-ecological realities. Given that communities can have 'collective memory', old and new meanings of places can be held simultaneously. Stewart and Evans (Chapter 5) develop a framework for place-making, showing tensions between stability and change in ways that facilitate adaptation to shifting ecological regimes. One pole is anchored in global and national issues, such as climate change; a second axis is related to multiscale structural conditions; and a third is related to the creation and maintenance of shared social values. An alternative important axis identified by Bailey (Chapter 12) concerns how senses of place evolve temporally across an entire life course.

Interpersonal relations and wider socio-economic, cultural and political forces combine across the life course to inform different senses of place and residential mobility decisions.

Senses of Place Necessarily Recognise Nonbelonging and Translocality

This volume expands our understanding of senses of place to the consideration of issues of nonbelonging and translocality, particularly with respect to issues of vulnerability in the global South, in developing countries and among indigenous people (Ganapathy, 2013; Castree, 2004; Raffles, 1999). Drawing on insights from Diepsloot, an informal settlement near Johannesburg, South Africa, Lau *et al.* (Chapter 8) reveal that narratives of nonbelonging and belonging are mutually constitutive: settlement residents tell stories of nonbelonging in order to belong. The state of nonbelonging therefore needs to be considered ‘as a state in its own right and not simply the absence of belonging’. Hertzog (Chapter 7) claims that place research in the global North has privileged singular connections to particular places and overlooked the translocal nature of many migrants’ lives, particularly those in Africa. Senses of place in situations of transnational migration cannot be understood in isolation from how the place of origin, the destination and third spaces knit multiple, local and larger-scale subjective and social ties, thereby informing an ‘extroverted’, multiscalar experience of sense of place. Drawing on cases from urban China, Huang (Chapter 9) suggests that migrants’ ties with both their place of origin and their destination cities are crucial to shaping belongingness. Farias and Diniz (Chapter 18) highlight the multiple ways that spaces are appropriated under a capitalist logic in Latin America, and through a dialectical approach they challenge us to ask: ‘what are the meanings and senses of the city when we think about a population that lives a contradictory process of invisibility and perverse visibility?’ They suggest that a detailed exploration of the dialectic of appropriation–alienation enables researchers to better understand the senses and meanings of people whose daily lives are on the streets.

Senses of Place Promote Post-Normal Science Grounded in Epistemic Pluralism

Our onto-epistemological frameworks must shift with the changing tides, literally and figuratively, as we come to terms with myriad experiences of a ‘new normal’ in regard to place research. We need onto-epistemological (critical) pluralism in place research (Patterson and Williams, 2005, 1998) in addition to pluralism in these ‘new normal’ times, requiring a democratised, inclusive approach to science, as reflected in recent approaches to knowledge co-production in sustainability science (e.g. Tengö *et al.*, 2017). This problematisation of senses of place also means going beyond the traditionally empirical and uncritical, towards a more flexible, reflexive and responsive way of understanding the complex dynamics among multiple coexisting spatial practices and

experiences. In this volume, we endorse the conceptual plurality and epistemic diversity of senses of place wherein senses of place research can support the practice of post-normal science and the democratisation of knowledges grounded in epistemic pluralism (building on Williams, 2018, 2014). It is our contention that producing knowledge about sense of place demands a dynamic approach that equates clarification, comprehension and explanatory potential with epistemological divergences, theoretical dialogue and conceptual contestation (Mitchell, 2009; Miller *et al.*, 2008) – that is, an approach grounded in a plural conception of senses of place as constantly in flux.

Pluralising and changing senses of place is part of an attempt to accommodate within one realm of discussion the *multiple and shifting experiences of sensing place* that feature in today's globalised world. As decolonial thinkers point out (Escobar, 2018; Mignolo and Walsh, 2018), a 'pluriversal' (as opposed to 'universal') approach to human knowledge must be necessarily grounded in the acknowledgement of the strictly situated and local nature of human experiences, processes and epistemologies. Plural knowledge about senses of place must mirror plural realities of sensing and making sense of place.

Throughout the book, the *relational, dynamic and networked character* of senses of place is discussed from different epistemological angles. Some scholars emphasise the *discursively constructed* and *(re)narrated* character of senses of place, which translates into particular spatio-temporal configurations. Manzo and Desanto (Chapter 16) refer to a constellation of place interpretations, meanings and values being continually formulated and negotiated, and they offer a pluralistic and discursive perspective on power and place, drawing upon work by Di Masso *et al.* (2014) and Williams and Stewart (1998). Di Masso and colleagues (Chapter 17) frame senses of place as place-based, experiential assemblages (Di Masso and Dixon, 2015) that are regularly reconfigured and narrated. Relph (Chapter 19) emphasises a particular sensuous plurality to understand senses of place as 'a synaesthetic faculty that unifies the various experiences of places registered by sight, hearing, smell, movement, touch, memory, imagination, purpose and anticipation'.

Chapters by Hertzog (Chapter 7) and von Wirth and Frantzeskaki (Chapter 23) also put more emphasis on *relational* and *networked aspects*. While Hertzog refers to senses of place as articulated moments in networks of social relations that may occur on different scales from the place itself, von Wirth and Frantzeskaki conceive place as a relational process involving stability and change, building on three constitutive dimensions: meanings and narratives of place; person-place practices and experiences; and new relations between people and place, and between people in the place. Affective and *embodied aspects* come into play as well when we try to frame senses of place. Hence, Olafsson *et al.* (Chapter 21) understand senses of place as comprising embodied place encounters together with affective and cognitive factors connected to place. Such affective and cognitive articulations may manifest in different ways of constructing *place representations*. Lewicka and Dobosh (Chapter 13) argue for a conceptual lens that articulates place continuity and change grounded in the assumption that places have multi-layered histories. In line with our argument for pluralisation and the attempt to accept multiple, competing and coexisting understandings of senses of place, Bleibleh (Chapter 14) refers to

contrasting feelings of home that combine security and threat, renewal and nostalgia. Following arguments by Hay (1998), senses of place emerge through *rootedness in place* and processes of *self-continuity*, while at the same time being a socially constructed ‘quasi state of mind’.

In summary, the chapters in this book present a diversity of approaches to conceptualising senses of place in the face of global challenges. In our conclusion, we will turn to the question ‘how do we navigate the diversity of senses of place from the perspective of the researcher and the researched?’ We will consider the navigational capacities necessary for governing the new or increasing speed or severity of global challenges, and we will provide recommendations for future research on senses of place to account for identified knowledge gaps.

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