



From therapeutic landscape to therapeutic ‘sensescape’ experiences with nature? A scoping review

S.L. Bell ^{a,*}, C. Hickman ^b, F. Houghton ^c

^a European Centre for Environment and Human Health, University of Exeter Medical School, Knowledge Spa, Treliske, Truro, Cornwall TR1 3HD, United Kingdom

^b School of History, Classics and Archaeology, Newcastle University, Newcastle upon Tyne NE1 7RU, United Kingdom

^c Department of Applied Social Sciences, Technological University of the Shannon, Moylish, Limerick, Ireland

ARTICLE INFO

Keywords:

Therapeutic landscapes
Senses
Sensescape
Green space
Blue space
Nonhuman nature

ABSTRACT

The therapeutic landscapes literature has evolved considerably since the concept was first proposed to understand how experiences of health and wellbeing unfold and develop through physical, social and symbolic dimensions of landscape encounter. Informed by a critical scoping review, this paper charts how the senses have been attended to across the therapeutic landscapes literature published since 2007 (the publication date of the previous edited volume on *Therapeutic Landscapes*). We focus specifically on literature pertaining to ‘nature-based’ therapeutic encounters, responding to calls to re-situate the body in wider interdisciplinary scholarship around nature, health and wellbeing. We attend to imagined and embodied visual, sonic, olfactory, haptic and gustatory sensations, and the varied ways in which these are interpreted and made sense of individually and collectively. In line with prominent visual landscape preoccupations, this body of literature largely privileges and focuses on the visual sense. While there is increasing interest in auditory, haptic and olfactory qualities of encounter, taste remains largely overlooked. This uneven focus neglects the potential richness and diversity of therapeutic sensescape encounters, as well as the cultural and social sensory histories that shape how contemporary encounters may be experienced and interpreted. Suggestions for future research are outlined, including methodological and empirical directions across the social sciences, arts and humanities.

1. Introduction

The ‘therapeutic landscapes’ concept was first posited in 1992 by health geographer, Wil Gesler. Recognising the need for a ‘reformed medical geography’ (Kearns, 1993: 141), it was particularly informed by thinking within cultural ecology, humanism, structuralism and materialism (Foley, 2020). It has, however, developed in varied empirical and theoretical directions since its initial conception (Williams, 2007), and is now widely used to examine how and why particular person-place encounters seem to contribute to experiences of health, healing and/or wellbeing. Gesler (1992, 1993, 1996, 1998) emphasised three key dimensions of therapeutic place encounter within his work; social, physical and symbolic (Kearns and Milligan, 2020). He focused primarily on ‘extraordinary’ landscapes with reputations for healing to understand and provide ‘thick description’ of how these three dimensions interact to shape subjective experiences of healing (Gesler, 2003).

Over time, the relational qualities of encounter have increasingly been foregrounded, particularly since Conradson’s (2005: 338)

emphasis on approaching therapeutic landscape experience as ‘a relational outcome, as something that emerges through a complex set of transactions between a person and their broader socio-environmental setting’. This work has encouraged efforts to ‘think of relations between bodies and materials as creating their own specific spatiotemporal forms’ (Brown and Reavey, 2019: 138) in ways that may enable or undermine opportunities for healing, or health and wellbeing more broadly (Gorman, 2019). Such relational thinking has initiated new conceptual work, with scholars drawing on assemblage thinking and non/more-than-representational theory within and beyond health geography (Andrews et al., 2014) to explore ‘the dynamic, contingent and ever-morphing constellations of bodies-subjects-objects-ideas-spaces that together work to enhance or destroy the therapeutic potential of the spaces in question’ (Emmerson, 2019: 596).

Much of this more recent scholarship – often linked to the concept of ‘therapeutic assemblage’ (Foley, 2011, 2014; Ireland et al., 2019) or ‘enabling places’ (Duff, 2011, 2012) – draws on posthumanist thinking to examine the ‘affective and material expression or emergence of place’

* Corresponding author.

E-mail address: sarah.bell@exeter.ac.uk (S.L. Bell).

<https://doi.org/10.1016/j.wss.2022.100126>

Received 7 September 2022; Received in revised form 29 November 2022; Accepted 19 December 2022

Available online 22 December 2022

2666-5581/© 2022 The Author(s). Published by Elsevier Ltd. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

as therapeutic (Andrews and Duff, 2019: 128). It responds to concerns that bodily materiality has often been overshadowed or overlooked in health geographical scholarship (Jeffries, 2018: 62). Or, as articulated by sociologist Michael Carolan (2009: 1), to concerns that ‘socio-environmental theory is dead... inanimate... motionless’, failing to attend to the role of moving, sensing, *doing* bodies. Recognising that ‘experience and bodily practice cannot be divorced from one another’ (Carolan, 2009: 2), notions of ‘therapeutic taskscape’ (Dunkley, 2009) and ‘therapeutic mobilities’ (Gatrell, 2013) have also been introduced to attend more critically to embodiment, embedment, emotions and movement (Foley, 2020; Kearns and Milligan, 2020).

In turning to posthumanist thinking, health and cultural geographers have sought to engage with ‘visceral sensing’ of the ‘physicality, atmosphere and immediacy of a place’ (Andrews and Duff, 2019: 129), foregrounding the role of the senses – and their pre-cognitive dimensions – within moments of landscape encounter (Rose and Wylie, 2006; Lea, 2009; Foley, 2011). For example, Britton and Foley (2021: 2) conceptualise bodies as ‘intimate sensors’ within their research with swimmers and surfers, while Kaley et al. (2019a: 1) unpack the ‘coming together of human and nonhuman bodies as a series of powerful sensory happenings’ in a care farm research context. These studies demonstrate valuable opportunities to examine how, when and why different ‘therapeutic sensescape’ experiences unfold or unravel (Wang et al., 2018). Indeed, there are growing calls to unpack the complex and dynamic ‘relations between sensory feelings and healing in specific socio-cultural contexts’ (Biglin, 2020: 3).

In this paper, we draw on the findings of an in-depth scoping review to chart how the senses have been attended to across the therapeutic landscapes literature to-date, focusing specifically on the role of the senses within so-called ‘nature-based’ therapeutic encounters. In doing so, we also respond to calls to re-situate the ‘black-boxed body’ (Guthman and Mansfield, 2013: 487) and its ‘fleshy reality’ (Hall, 2000) in wider interdisciplinary debates about nature, health and wellbeing; a body of scholarship that spans geography, anthropology, physical cultural studies, environmental psychology, public health, planning, landscape architecture, and epidemiology (Foley, 2020). We adopt a broad approach to ‘nature’ here, and fully acknowledge the longstanding debates around – and assorted culturally coded notions of – nature that persist within and beyond geography (Macnaghten and Urry, 1998; Braun, 2005; Castree, 2005, 2013; Panelli, 2010).

As noted by Brown (2017: 307), ‘the bodies of green space users are often invoked in environment-health studies as little more than vessels for eyes that look effortlessly across outdoor spaces in ways that seem to lead to psychological wellbeing’. To fully understand the therapeutic potential of such encounters beyond the visual (Macpherson, 2017), it is important to explore how people experience, shape and respond to diverse multisensory qualities of nature encounter, recognising that multiple parts of the body are important in ‘acting as bridges to the world’ (Thrift, 2004: 597). In this paper, we attend to imagined and embodied visual, sonic, olfactory, haptic and gustatory sensations, and the varied ways in which these are interpreted and made sense of individually and collectively. In doing so, we focus on the prominent senses identified in the literature reviewed. However, we recognise that not all cultures divide the sensorium in this way and suggest value in rethinking this approach in future work (Pink, 2009; Howes and Classen, 2014). In response to recent concerns about ‘incompleteness’ and the somewhat ‘glib’ application of the therapeutic landscapes concept at times (Kearns and Milligan, 2020: 4), we also take care to explore how these sensory qualities of experience relate to the tripartite physical, social and symbolic dimensions of therapeutic encounter.

2. Review methodology

The scoping review that informs this paper was guided by the overall review question: *In what ways have diverse sensory qualities of nature-based encounter been attended to and analysed within the ‘Therapeutic*

Landscapes’ literature?

Scoping reviews are a valuable approach for examining the ‘extent, range, and nature of research activity’ across a particular area (Levac et al., 2010: 1) including a range of study designs, contexts and evidence sources, and balancing breadth and depth of insight. This review was conducted in two phases. In Phase 1, we revisited the sources included in our earlier scoping review of the therapeutic landscapes literature from 2007 – 2016 (Bell et al., 2018), focusing on the 54 sources that included specific sensory references to nonhuman nature encounters. We re-charted each source to analyse how diverse qualities of sensory encounter were described; ‘charting’ is an analytical process in which material is sifted, sorted and critically examined according to key issues and themes. In this updated review, we used the charting process to analyse how the senses were attended to in each source, particularly in relation to physical, social and symbolic dimensions of therapeutic encounter.

In Phase 2, we updated the literature searches to retrieve relevant sources published since the earlier review, following the same scoping review approach (informed by Arksey and O’Malley, 2005). Searches were conducted in February 2022, using three core search terms (“therapeutic landscape*”, “therapeutic mobilities”, “therapeutic network*”), within two comprehensive electronic databases (Web of Science, Scopus). As the term ‘therapeutic landscapes’ has been utilised within medical spheres to refer to the mix of pharmaceutical and therapeutic treatments available for treating specific conditions, a series of terms were also used to try to screen out sources that were not

Table 1
Search terms, fields and combinations.

Health geography terms for ‘therapeutic landscape’		Medical/ pharmaceutical terms for ‘therapeutic landscape’	Database search fields
<i>Combined with Boolean operator</i> ‘OR’: “therapeutic landscape*” “therapeutic mobilities” “therapeutic network*”	Combined with Boolean operator ‘NOT’	<i>Combined with Boolean operator</i> ‘OR’: “targeted therap*” “systemic therap*” pharmacol* “suppressive therap*” “frontline therap*” “therapeutic target” “gene edit*” “treatment-free remission” “precision medicine” “immune checkpoint inhibit*” immunotherap* “genetic diagno*” “myeloma therap*” “monoclonal antibody therap*” “imprecision oncolog*” “novel therapeutic agent*” “precision therap*” “therap* peptide*” “receptor cell therap*” “therapeutic antibody engineer*” “insulin therap*” “disease modifying therap*” chemotherap* radiotherap* “neoadjuvant therap*” “nuclear medicin*” “biological medicin*”	<i>In Web of Science:</i> ‘Topic’ (includes title, abstract, author, keywords, keywords plus) <i>In Scopus:</i> ‘Title, abstract, keywords’

underpinned by the health geographical ‘therapeutic landscape’ conceptual scholarship. The search terms used are summarised in Table 1. These updated search dates ran from December 2016 (building on the earlier review) to February 2022. Recognising the evolution of the concept and linked terminology (Foley, 2020), we did also try the terms “therapeutic assemblage*”, “therapeutic space*”, “therapeutic task-scape*”, “enabling place*” in the Web of Science database. However, the relevant studies retrieved by this search had already been identified in the initial searches (and subsequent snowballing/citation searching), and several of the retrieved sources used the terms in different contexts altogether (e.g., in relation to counselling and pharmaceutical interventions).

The Phase 2 searches retrieved 451 sources in Web of Science and 228 sources in Scopus. A series of exclusion criteria were applied to the titles, abstracts (and full texts where necessary if not clear from the abstracts), to exclude:

- Studies using the term ‘therapeutic landscapes’ solely within medical spheres to refer to pharmaceutical/medical therapeutic treatments;
- Studies making no reference to the health geography therapeutic landscapes concept or more recent developments of it (i.e., therapeutic assemblage, networks, mobilities, taskscapes etc.);
- Studies without reference to nonhuman nature encounters;
- Studies without discussion of the sensory qualities of non-human nature encounter;
- Non-empirical studies (though relevant therapeutic landscapes review papers were set aside to provide useful contextual information);
- Non-English language sources (due to the language limitations of the review team).

After applying these exclusion criteria, there were 56 duplicates between Web of Science and Scopus, and 83 sources were included for full source charting.

The bibliographic details of all included sources were imported into the Excel sheet created for our earlier scoping review, under a new worksheet with additional thematic categories, and charting was conducted as described above. The reviewers produced summaries to capture the key sensory dimensions and linked themes identified through the charting process. These were shared and discussed to shape and support the production of this paper.

Although scoping reviews tend not to involve formal processes of quality assessment (Arksey and O’Malley, 2005), care was taken to retain a critical perspective throughout the charting process. Particular attention was paid to: (a) study trustworthiness – use of appropriate study designs, evidence of reflexivity, clear presentation and careful interpretation of study data and ethical considerations; and (b) theoretical underpinning and contributions – use of appropriate explanatory concepts for the findings, clear and critical connections made to relevant bodies of knowledge and theoretical frameworks (Garside, 2014).

In this paper, we summarise key review findings, focusing in turn on the visual, sonic, olfactory, haptic and gustatory qualities of landscape encounter (while recognising the interlinked nature of these senses in shaping experience). While we focus primarily on literature identified through the scoping review, we draw on wider bodies of historical and sensuous scholarship where appropriate throughout the paper, particularly in signposting fruitful areas of future work linked to the insights shared.

3. Therapeutic landscape experiences – the prominence of sight

By far the most prominent sense within the therapeutic landscapes literature reviewed was that of sight. This is perhaps unsurprising given Eurocentric visual preoccupations with landscape (Wylie, 2007; Howes and Classen, 2014; Macpherson, 2017). There has long been a tendency to prioritise a specific ‘scopic regime of detailed and disinterested observation’ of landscape (Nettleton, 2015: 764), such that it is ‘first and

foremost visually experienced and other sensuous geographies are marginalised’ (Rodaway, 1994: 123). Much of the therapeutic landscapes literature reviewed makes at least generic reference to the uplifting or awe-inspiring qualities of scenic views (Yang et al., 2018; Brooke and Williams, 2020; Grant and Pollard, 2022). Such scenery provides a reminder to look up (Shortt et al., 2017) and has been linked to feelings of tranquillity (Conradson, 2005; Wu and Yang, 2021), gratitude (Pascal, 2010), spirituality (Finlay et al., 2015) and home (Coleman and Kearns, 2015; Jellard and Bell, 2021). These visual themes, particularly in relation to aesthetics and health, have also been investigated by historians in relation to urban parks (Jones, 2018) and healthcare settings such as hospital gardens and therapeutic asylum regimes (Hickman, 2009, 2013; Eastoe, 2016).

Some studies offer more detail about *specific* visual qualities that contributed to the therapeutic dimensions of encounter for participants. The importance of colour and light, for example, is regularly noted in relation to feelings of uplift and absorption. References are made to the fascination of changing hues, intensities, brightness and contrasts (Lengen, 2015; Thomas, 2015; McNamara et al., 2020), specifically at the reflective interchange of sky and sea (Bell et al., 2015). Light reflections in the water are noted as prompting a sense of space and perspective (Severin et al., 2022), or ‘big wide world thoughts’ (Völker and Kistemann, 2013: 119). The role of the elements in animating such scenes is discussed, from the awe and perspective of witnessing richly textured sunsets and sunrises (Lengen, 2015; Völker and Kistemann, 2015; Handlovsky et al., 2022) to the sense of hope in seeing the sun emerging from clouds (Cheesbrough et al., 2019), the calm of watching rainfall (Muenchberger et al., 2012), the fascination of pebbles drying out to reveal different patterns and textures (Lengen, 2015), and the invigoration of seeing strong winds and storms roll in (Milligan et al., 2021). In a study of prison inmates in Scotland, this sense of flux offered moments of relief from the monotony of prison life (Jewkes et al., 2020). In a study of suicidal histories amongst gay men with HIV (Handlovsky et al., 2022), participants expressed hope in seeing nature’s cycles, as well as moments of joyful spontaneity, including the impulse to make a snowman upon encountering a snow-blanketed landscape.

The dynamic qualities of water often feature within people’s therapeutic landscape descriptions, with the constant movement of waves at the seashore noted as captivating (Bell et al., 2015) and visually undemanding (Coleman and Kearns, 2015). This flux, along with the flow of rivers and cascading waterfalls, evoke feelings of temporal perspective, symbolic of the endurance of life (Duff, 2012; Windhorst and Williams, 2015; Severin et al., 2022). Despite a fascination with the movement of surface waters, a fear of deep water was identified by Lengen (2015) amongst participants with a mood disorder. However, in a study of scuba diving, Straughan (2012) notes how the translucent underwater world – and the textural perspective of the surface viewed from below – offers a unique sense of space, encouraging the eye to roam rather than fixating on specific features. From the water’s surface, views back to the land offer a different visual orientation to the world amongst surfers and swimmers and corresponding feelings of belonging within the water environment (Foley, 2017; Britton and Foley, 2021). Visual qualities of the waves, currents and swell are also used to ‘read’ the safety of these environments before engaging in full haptic immersion (Britton and Foley, 2021). Many of these visual qualities feature in studies exploring therapeutic landscapes of the mind, from people’s favourite vistas (Andrews, 2004; Milligan et al., 2021), to deep blue seas, boats bobbing, and waves breaking gently at the shore (Houghton and Houghton, 2013). However, as discussed by Pitt (2018: 164), such characteristics are not apparent in all forms of water, with canal water typically ‘heavy with sediment, brown green or grey, rarely – if ever – blue, often littered with debris... it does not flow so much as occasionally ripple or bob’, and often shaded by buildings rather than being reflective of sunlight.

Studies also note an appreciation for the colours of seasonal change as a further reminder of renewal (Duff, 2012), with references made to the pleasure of seeing colourful spring flowers (Milligan, 2007; Milligan

and Bingley, 2007), and the joy of new shoots appearing. For gardeners, this emergence provided a sense of achievement as they witnessed the fruits of their labour (Milligan et al., 2004; Pitt, 2014), and for some a reminder of loved ones who have passed away (Heck and Tsai, 2022). Gardens have been described as an ‘oasis’ of colour in more built-up urban environments (Pitt, 2014), and more recently as a ‘lifeline’ during the restrictions of the COVID-19 pandemic (Jellard and Bell, 2021; Doughty et al., 2022). Other studies refer to the relaxation of, for example, watching flowers and grasses swaying in the wind (Birch et al., 2020) and again, a sense of comfort and temporal perspective through encountering the perceived stability and endurance of large old trees (Milligan and Bingley, 2007; Thomas, 2015; Windhorst and Williams, 2015). This deeper sense of time is also referred to in relation to ageing landscape features, such as remnants of forgotten industrial landscapes (Ireland et al., 2019) and churchyards, with gravestones providing a point of connection to history and a visual reminder to ‘live life to the full’ (Thomas, 2015; Grant and Pollard, 2022).

In addition to plant life, studies have highlighted the joy and excitement of both routine and unanticipated visual animal encounters, from the pleasure of seeing seals and herons (Finlay et al., 2015), to dolphins, whales, kestrels (Jewkes et al., 2020), rockpool dwellers (Kelly, 2018), deer (Windhorst and Williams, 2015; Cheesbrough et al., 2019), birds of various kinds (Milligan, 2007; Bell et al., 2017; Ireland et al., 2019; McNamara et al., 2020; Tsai, 2022), squirrels (Howarth et al., 2021), insects (Pascal, 2010), and contented dogs being taken out for a walk (Grant et al., 2017; Smith et al., 2017). Tuning into the movements of these animals offers a shift in rhythm, a sense of calm and an internal spaciousness for some (Conradson, 2005; Pascal, 2010), alongside feelings of more-than-human comfort (Cheesbrough et al., 2019).

The value of edges is touched on in the literature, offering safe vantage points to take in these scenes and reflect on personal situations (Pascal, 2010; Lengen, 2015). Sometimes, these edges are from inside out, with big windows allowing access to natural light (Pascal, 2010; Butterfield and Martin, 2016). Views have been noted as particularly important amongst people with limited opportunities to explore the landscape more interactively, for example older adults with reduced mobility (Coleman and Kearns, 2015), patients and staff within health care settings (Wood et al., 2015; Butterfield and Martin, 2016; Bates, 2019), prisoners within carceral settings (Jewkes et al., 2020), and residents of historic asylum environments (Eastoe, 2016). Collins et al. (2016) note how visible access to landscape was deemed important for the ‘moral treatment’ of former asylum residents who were not given direct physical access to the asylum grounds. However, reliance solely on detached visible access can also be frustrating, adding to a sense of incarceration and monotony; for example, amongst people with dementia in care facilities unable to go outside (McLean, 2007) and some of the inmates of the Scottish prison with a sea view noted above (Jewkes et al., 2020). Notably, Mokos (2017) describes how residents of a river-bottom homeless camp in California, constructed bamboo screens to ‘create’ new edges as a form of visual privacy. These screens offered a fleeting sense of respite in the context of lives characterised by surveillance and stigma, when the most private of actions are routinely on public display.

Taken together, the visual remains the most prominent sense within the nature-related therapeutic landscapes literature, and there is growing use of visual research methods such as PhotoVoice (e.g., by Plane and Klodawsky, 2013; Windhorst and Williams, 2015; Shortt et al., 2017; Cheesbrough et al., 2019; Lucke et al., 2019; Pace, 2020; Biglin, 2021). Photos can evoke reflection on the wider senses through weaving non-visual sensory questions into elicitation activities (Harris and Guilleman, 2012). However, to embed broader sensory perspectives (beyond those discussed in the following sections), these methods could be complemented with, for example, the integration of sound walks, diaries, audio-elicitation and sonic mapping activities (Duffy, 2010; Duffy et al., 2016; Petty, 2016), biographical objects that could be

meaningfully engaged with using non-visual senses (Sheridan and Chamberlain, 2011), auto-ethnographic ‘participant sensing’ (Duffy et al., 2011), in situ and mobile methods (Bell et al., 2017), and sensory ethnography (Pink, 2009; Biglin, 2020).

Despite the visual emphasis, it should be noted that prior work by Granö (1997), exploring both colour and light (photology) in landscapes, was far more detailed than that routinely evidenced in the therapeutic landscapes literature. In dealing with the visual and wider senses, Granö divided landscapes up into proximate, transitional and distant views. His work included maps of proximate colours, openness and obstructiveness in environments, as well as maps of olfactory, auditory and tactile phenomena, with the latter including wind, temperature, dampness and humidity. Granö sought to create a language and coding scheme for landscapes, referring to three main parts when describing qualitative phenomena: the *proximate field* of vision; the *medium* comprised of auditory, tactile and olfactory phenomena; and the specific tactile phenomena of the ground (e.g., gradient, evenness, roughness etc.), which he termed the *substrate*. In this way, Granö initiated early work into the interconnections between visual qualities of encounter and wider multisensory dimensions of experience. In what follows, we demonstrate how moving beyond a preoccupation with the visual can enable ‘a more complete understanding of perception and embodied experience’ (Keating and Hadder, 2010: 125) within the therapeutic landscapes literature.

4. Therapeutic soundscape experiences

Countering ocularcentric approaches to landscape, there has been growing interest in the ‘resonant and sonorous’ qualities of therapeutic landscape encounter (Gorman, 2019: 10), recognising the power of sounds ‘to engage us directly and emotionally’ (Revill, 2016: 249). While eyes can be closed to unwanted scenes, the body lacks ‘ear-lids’ (Shafer, 1977), such that sounds and their implications for therapeutic landscape encounters, are harder to control. According to Duffy et al. (2016: 52), ‘understanding the various, situated and fleeting intensities of visceral reactions to sound offers one way to help explore the most immediate and intimately felt mutual relationship between a body and space’. Responding to Prior’s (2017: 11) calls for ‘a sensitive ear to the world to better account for the multiplicity of landscape sounds’, we reflect here on how sound is attended to within the therapeutic landscapes literature reviewed.

Many references are made to valued opportunities for peace, quiet and tranquillity in the therapeutic landscapes literature (Parr et al., 2003; Conradson, 2005; Duff, 2012; Dinnie et al., 2013; Hickman, 2013; Coleman and Kearns, 2015; Goodkind et al., 2015; Meijering et al., 2017; Birch et al., 2020). These opportunities are often framed in contrast to places characterised by unwelcome sources of noise, such as traffic (Pascal, 2010; Windhorst and Williams, 2015; Boucher et al., 2019), people talking (Milligan, 2007; Milligan and Bingley, 2007), busy hospital environments (Muir-Cochrane et al., 2013), and generalised built-up urban environments (Cheng et al., 2011; Cheesbrough et al., 2019). In studying a yoga and massage retreat in Spain, Lea (2008) reflects on the value of quiet spaces to enable deeper listening to – and reconnection with – stillness within the body. That said, while crowded soundscapes can be negative (Liu et al., 2021), it must also be acknowledged that silent landscapes are not necessarily viewed positively. Reflecting Granö’s (1997) perception of ‘deathly silence’ as ‘awkward’, Havlick et al. (2021: 4) note that ‘it can be too quiet’, while others refer to the silent nature of space being ‘off-putting and... eerie’ (Brooke and Williams, 2020: 1280).

Again, the sounds of water are regularly discussed across the literature, for example in masking unwanted or troubling sounds (Lengen, 2015; McNamara et al., 2020; Britton and Foley, 2021). Sounds of the wind, too, are noted as providing respite in the form of non-threatening ‘white noise’ (Mokos, 2017). References are made to the calming sonic influence of water lapping the shore or riverbank, babbling streams,

raindrops on water, and flowing water fountains (Völker and Kistemann, 2013; Bell et al., 2015; Finlay et al., 2015; Kelly, 2018; Ireland et al., 2019; Satariano, 2019), and to the energising influence of crashing waves and waterfalls (Bell et al., 2015; Brooke and Williams, 2020; Britton and Foley, 2021). Varied sounds of flowing water feature in the therapeutic imaginary (Houghton and Houghton, 2013; Rose and Lonsdale, 2016). Notably, Straughan (2012: 23) describes the intimate quality of underwater sound while scuba diving, describing a ‘material thickness in contact with the ear drum’, the sounds of one’s own breathing and rarely heard sonic encounters like that of a parrot fish exploring the coral. Examining water in another form, Wu and Yang (2021: 10) discuss the ‘crunching sound of snow under feet’.

The sounds of animal life are often highlighted, most commonly in relation to the peace or joy of hearing bird song (Duff, 2012; Finlay et al., 2015; Völker and Kistemann, 2015; Butterfield and Martin, 2016; Jelard and Bell, 2021; Chen and Wang, 2022; Doughty et al., 2022). In some cases, specific birds are mentioned, such as galahs (Muenchberger et al., 2012), song thrush birds (Milligan et al., 2004), crows harassing buzzards, and larks ascending over grassy meadows (Grant and Pollard, 2022), and sometimes with mixed responses, for example to gulls (Jewkes et al., 2020) and dawn-waking pigeons (Bates, 2019). A participant in a Canadian study by Ahmadu et al. (2021: 3) of rural men’s mental health described the sounds of birds and bugs in the backyard as a sign that ‘the world is taking a breather for a second as well as I am’. However, bugs are not always positively received, with Vaeztavakoli et al. (2018) noting the irritation of mosquitoes buzzing in the summer. Other animal sounds are identified as soothing, including frogs and cows (Doughty et al., 2022). Unexpected noises in a care farm context were experienced as unsettling in a study by Kaley et al. (2019a), with participants initially wearing earmuffs to give them time to familiarise and adapt (Kaley et al., 2019b). In Mokos’ (2017) study of the river-bottom homeless camp in California, encampment residents described a sense of connection with the sounds and sights of stigmatised animals (e.g., rats, possums, coyotes) deemed to face the same future of eviction as them due to local aspirations to create a recreational ‘Ventura River Parkway’ in the area.

Although much of the literature on therapeutic soundscapes may focus on quiet spaces or natural sounds, the importance of music (Gastaldo et al., 2004; Foley, 2013; Maddrell, 2013), has also been noted (Howarth et al., 2021; Rahtz et al., 2021). This includes work exploring the potential to listen for and transform everyday places into ‘other-worldly landscapes’ with ambient music (Evans, 2014: 184), as well as a sense of connection experienced while singing in park and woodland settings (Zhou et al., 2021). In a Belgian study (Severin et al., 2022), one participant explained the sense of freedom of exteriorising emotions at the coast through screaming, crying and singing, gaining a sense of peace in the process. This work suggests value in examining the role of sound in shaping ‘the euphoria of communicating back-and-forth between the self and others... the sensation of becoming part of a collective – or one shared body’ (Duffy et al., 2011: 19) through more-than-human social and sonic landscape encounters. Or, indeed, the moments where synchronisation falters, where sensory disruptions undermine harmonious opportunities for both personal and communal therapeutic experiences.

While sound is clearly considered to some extent within the literature reviewed, the content remains somewhat descriptive, with relatively little in-depth reflection about: how people tune into, ‘rework or silence particular sounds’ (Duffy and Waitt, 2013: 467) to enable therapeutic opportunities; the historic and cultural connotations of sound – or dynamic layers of sound – within different settings (Ratcliffe et al., 2013; Bates, 2021); the varied qualities of ‘timbre, pitch, texture, resonance, rarity or periodicity’ (Prior, 2017: 10) that shape how people ‘move and mingle’ (Duffy, 2010: 44); or the ways in which sound ‘spills over into other sensory registers’ (Gallagher et al., 2017: 630) to co-constitute therapeutic atmospheres (Smith, 2021) and/or influence opportunities for therapeutic encounters. As noted by blind scholar, writer, curator

and artist, Siegfried Saerberg (2010: 371), ‘sounds mingle with smells, with perceptions of body movement and with skin sensations – with tactile, olfactory, sensorimotor, and even gustatory schemes of interpretation’.

5. Therapeutic smellscapes

In moving from visual landscapes and soundscapes to the olfactory and other senses, it is worth noting Mabey’s (2010: 105) comment that ‘there’s no harm – and probably a great deal of good – in physical contact with the commoner plants. Looking at a flower only tells you half its story. You need, too, to be able to bury your nose in its pollen and feel the texture of its petals’ (cited in Houghton and Houghton, 2015: 285). By far the most detailed examination of smell or scent within the nature-based therapeutic landscapes literature to-date is an ethnographic study by Gorman (2017a) of UK community supported agriculture projects. Gorman (2017a: 22) notes how places are too often represented as ‘anosmatic, with the aromas, smells, and scents that contribute to an embodied experience of place removed and forgotten’.

The studies reviewed often made generic references to people’s enjoyment of woodland, park or other ‘nature’ smells without necessarily explaining what they are or why they matter (Milligan and Bingley, 2007; Duff, 2012; Cheesbrough et al., 2019). A common – yet rarely interrogated – reference is the enjoyment of ‘fresh air’ (Ireland et al., 2019; Satariano, 2019; Russell et al., 2021; Zhou et al., 2021; Chen and Wang, 2022). This somewhat ambiguous reference may concern a lack of unwanted smells, such as car exhaust (Macpherson, 2017), sewage effluent (Jewkes et al., 2020) or other sources of pollution (Pitt, 2018), or may refer to the experience of encountering moving rather than stagnant air (Edgley et al., 2011; McNamara et al., 2020). Some studies do allude to more specific smells described by participants, including the scent of the ground after rain (Macpherson, 2017), the pleasure of plant fragrances such as garden herbs (Finlay et al., 2015), honeysuckle (Smith et al., 2017), roses (Tsai, 2022), southernwood (Milligan et al., 2004), eucalyptus (Mokos, 2017), wild garlic (Ireland et al., 2019), salty sea air and seaweed (Bell et al., 2015; Meijering et al., 2017; Kelly, 2018) – in one case intermingled with that of ‘marijuana, incense, urine, sun-rotted garbage, body odour and barbeque smoke’ (Bignante, 2020: 94). Smells also feature within imagined therapeutic landscape experiences, including scents of wet earth, pine trees, flowers, wet mint beside a river, and salty ocean spray (Houghton and Houghton, 2013).

However, few of these studies reflect in detail on how these different scents are generated, experienced, sought out or responded to. In contrast, Gorman (2017a: 23) examines how smells of the farm – from animal musk, deadstock and decay, to mud and dirt, horticultural crops and flowers, and the scents of people working and at times preparing food within the farm – ‘penetrate and permeate’ the body. These olfactory flows create microgeographies of scent that choreograph people’s movements and activities within the farm (microgeographies that are also apparent within Kaley et al., 2019a visual ethnography of a care farm context with people with intellectual disabilities). Care – or ‘olfactory work’ (be it elimination, masking or diffusion) – is often needed to create space to work around unpleasant odours. Farm work itself creates a ‘visceral geography of sweat’ acting as a marker of a successful day together on the farm for some and a deterrent to getting involved for others (Gorman, 2017a).

Also highlighted in Gorman’s (2017a: 25) work is the evocative and at times nostalgic quality of scent, with both pleasurable and ‘traumatic events often encoded into memory by olfactory cues’. Specific olfactory phenomena may be deemed ‘typical’ of a place (Granö, 1997), conjuring poignant memories and emotions for some. For example, Thomas (2015) describes how the scent of a particular tree connected one participant to happy memories of childhood holidays shared with grandparents, while Biglin (2020) discusses the importance of the herb basil in evoking nostalgia and memories of ‘home’ amongst refugees in an urban

allotment in North-West England. McLean (2007: 321) critiques the exclusion of dementia patients from the gardens of institutional care facilities, noting how ‘embodied memories, such as pleasurable smells or the recognition of a soothing touch, are universal, primal, and last throughout dementia’, with the potential to reawaken otherwise elusive opportunities for pleasurable sensation.

Nostalgic scent connotations also feature in historic, collective therapeutic imaginaries, such as the scent of the pine tree ‘signalling particular health properties in the forest, the sanatoria and the home’ (Hickman, 2022: 105). Deeper engagement with sensory history could further enrich our understanding of social and cultural therapeutic landscape dimensions, and the ‘sociohistorical construction of the sensorium’ (Paterson, 2009: 779). Such work could examine the role of specific scents and *types* of scent (e.g., floral, fruity, decay, spicy, burnt, resinous – Granö, 1997) – and the senses more widely – in shaping how people used, engaged and interacted with past landscapes in ways that contributed to their cultural reputations as therapeutic settings. This work could also explore how non-human lives may have inhabited these landscapes in the past in ways that contributed to or compromised the sensory experiences of diverse more-than-human inhabitants. Such efforts would offer valuable insights into how cultural and social histories shape the ways in which therapeutic sensory encounters may unfold or unravel for people in situ today.

6. Therapeutic haptics

To fully understand the contexts in which therapeutic landscape experiences can emerge, it is important to consider the significance of ‘even the smallest spaces of connection between body and world’ (Lea, 2008: 96). As such, we focus here on therapeutic haptics; from sensations of touch mediated primarily via skin contact, including varied textures, temperatures and pressures, to the ‘whole-body tactility’ of landscape encounter, including kinaesthetic (the sense of movement), proprioceptive (the sense of bodily position) and vestibular (the sense of balance) dimensions (Paterson, 2009).

Perhaps the most commonly recognised haptic or tactile sensation is that of hand touch, relevant in the context of, for example, climbing trees or clambering over rocks (described as ‘that natural tactile thing’ by a participant in a study by Little, 2012: 268), and the affective pleasure and satisfaction of working with the soil and earthy materialities while gardening (Liu et al., 2017; Fullagar and O’Brien, 2018; Jackson, 2018; Abramovic et al., 2019; Jellard and Bell, 2021). For some, intimate tactile contact with mud contributes to a sense of freshness, while others express an aversion to it as a source of dirt and uncleanness (Milligan and Bingley, 2007). Tactile contact with insects (Philips et al., 2015) and animals, too, is noted within the literature, from the pleasure of petting dogs in an urban park (Plane and Klodawsky, 2013) to the therapeutic benefits of gently stroking domestic farm animals (Kaley et al., 2019a,b; Cacciatore et al., 2020), with some animals modified to facilitate such handling, such as wing-clipped chickens (Gorman, 2017b).

Therapeutic touch is also experienced through other points of embodied contact, for example, seeking out the sensation of sand, grass or crunchy autumn leaves underfoot (Bell et al., 2015; Windhorst and Williams, 2015; Doughty et al., 2022), walking through long grasses and wild flowers (Grant and Pollard, 2022), and feeling the elements; including the warmth of the sun, the cooling of shade, the caress of the breeze, or gentle rain on the body (Duff, 2012; Volker and Kistemann, 2013; Finlay et al., 2015; Kearns et al., 2014; Thomas, 2015; Butterfield and Martin, 2016; Fullagar and O’Brien, 2018; Biglin 2021; Liu et al., 2021; Howarth et al., 2021). Ouyang et al. (2022) discuss ‘weather worlds’, feeling part of the full gamut of elemental environments from sunshine to fog and ice while marathon running. Similar feelings of exhilaration in encountering such harsh environments are evident in the work of Wu and Yang (2021). This experience of fully experiencing the weather is also discussed in McQuoid’s (2017) exploration of

motorcycling, and Laws (2009) explores the sensations of roaming both the wild moors and the darker side of town. Such haptic qualities also feature within people’s therapeutic imaginaries, including sensations of warmth on the beach (Andrews, 2004), the feel of ocean mist on the skin, moist cool clouds, stepping into cool water, feeling waves lap around the feet, feeling the crunch of snow or the sensation of sand and grass between the toes, and encountering the cold of a frosty morning (Houghton and Houghton, 2013).

Straughan (2012) reflects on whole-body touch in her work on scuba diving, a dimension of haptic experience that is particularly apparent within studies exploring the therapeutic qualities of aquatic landscape encounter. She describes the somatic tensions and changing temperatures and pressures experienced within the textured environment of scuba diving, shifting the body’s axis and enhancing one’s awareness of the body in space (via the proprioceptive sense). This awareness has also been identified amongst swimmers and surfers (Foley, 2015; Britton and Foley, 2021), navigating changing tides, currents, speeds, wave and weather conditions, contributing to ‘therapeutic accretion’ (Foley, 2017) and a sense of aquatic belonging through repetition over time. When unable to engage in such immersive practices in the early stages of the COVID-19 pandemic, regular swimmers and surfers in the south-west of England described a loss of place and a compromised sense of home (Jellard and Bell, 2021). Amongst people experiencing embodied pain, particularly in older age or with specific health conditions, aquatic immersion can bring otherwise elusive sensations of weightlessness, buoyancy and respite (Finlay et al., 2015; Foley, 2015; Satariano, 2019; Milligan et al., 2021). On a similar theme, McQuoid (2017) discusses swimming with whales in an exploration of leisure-scapes amongst people experiencing chronic illness. Immersion in spring water can also have cleansing and religious overtones that bring collective feelings of joy and happiness in pilgrimage contexts (Harris, 2013). Brooke and Williams (2020) juxtapose both positive and negative experiences with water in Iceland, noting the cold wet waterfall sprays, as well as restorative and warming hot spring pools. Notably, fear of drowning and the discomfort of cold water remains a deterrent to full aquatic immersion for some (Foley, 2015; Pitt, 2018).

How these haptic sensations are experienced is, to some extent, dependant on context; as Pitt (2018) notes, wetness may be refreshing on a hot day but chilling and uncomfortable in colder temperatures. Acts of care in situ can help to ease haptic discomfort to some extent, for example through donning protective and supportive clothing/equipment (Dunkley, 2009) or seeking sensory refuge within the immediate environment. Reflecting on the experiences of a yoga and massage retreat, Lea (2008) describes how the sensory discomfort of encountering rocks in the floor focused attention to the smallest points of connection between body and world, inviting new forms of embodied attention and exploration. Amongst people with reduced mobility or compromised balance, the presence of rocks and uneven gradients and surface textures – at times shaped by hazards like ice, wet undergrowth, waterlogged soil, overhanging branches, slopes and stiles – can undermine the therapeutic qualities of landscape encounter, necessitating a focus on risk mitigation (individually or collectively in a group context) rather than more cognitively relaxing forms of immersion (Doughty, 2013; Meijering et al., 2017; Finlay, 2018; Paddon, 2020). Wang et al. (2018) explore an environment demonstrating extremes in their examination of sand therapy in Xinjiang, outlining both the potential beneficial impact of heat on chronic conditions such as rheumatism and arthritis, as well as the burning temperatures that can result in blisters, fainting and heart attacks. Reflecting efforts to manage ambient temperatures through movement, Chen and Wang (2022) describe how the *Houanio* or ‘snowbirds’ in northern China migrate in response to seasonal temperature shifts, moving to the tropical climes of Sanya in the winter and back home to avoid the tropical temperature and humidity in the summer.

Haptic experiences often arise through movement; that of the individual or the landscape ephemera unfolding around them (Ouyang et al.,

2022). This is an area of scholarship that has received more attention within the therapeutic landscapes literature to date due to Gatrell's (2013) 'therapeutic mobilities' concept, recognising how the peopling and placing of movement shapes its therapeutic potential. The pleasure and, in some cases, cathartic release and ruminative disruption, experienced through mobile physicality has been examined, for example in relation to sea swimming (Foley, 2015), walking (Piat et al., 2017; Boucher et al., 2019), or specifically walking on mudflats (Duedahl et al., 2020), hiking (Lengen, 2015; Macpherson, 2017; Havlick et al., 2021; Milligan et al., 2021), and accessible tramping (Conradson, 2005).

Engaging in routine sensory mobilities can contribute to feelings of home (Jellard and Bell, 2021), while repetitive movements (from gardening and walking to swimming, surfing, farm work etc.) are thought to promote a state of 'flow' (Csikszentmihalyi, 2002); an intense and rewarding absorption in the activity in hand, described by Pitt (2014: 84) as 'the therapy of bodily motion' (Bell et al., 2015; Thomas, 2015; Gorman, 2017b; Kaley et al., 2019b; Britton and Foley, 2021). Such activities also contribute to what Dunkley (2009) describes as 'therapeutic taskscape'; absorbing purposeful activities that contribute to the everyday maintenance and flourishing of both person and place (Russell et al., 2021). This routine purposeful work (e.g., chopping wood and picking berries) has been considered crucial for health amongst Inuit in NunatuKavut, Labrador (Pace, 2020). Notably, engagement in repetitive purposeful activities (e.g., weeding, tilling, sericulture, farm work etc.) was also a key therapeutic strategy within former asylum settings. While such activities were advocated as a means to 'restore the senses' (Eastoe, 2016: 658) and relieve monotony amongst asylum residents (Moon et al., 2006; Collins et al., 2016), they have been critiqued as a physical 'means of silencing the deviant' (Parr, 2007: 544).

The social qualities of mobile encounter are emphasised in much of the work around therapeutic mobilities, recognising the supportive value of moving 'shoulder-to-shoulder' with like-minded others (Ireland et al., 2019: 43) and the shared sensory negotiation of landscape materialities. Described by Doughty (2013: 143) as 'the give-and-take of moving together', this negotiation may involve slowing or pausing for rest when called for by the body, or in response to aspects of landscape that command attention, be it in the form of hazards to negotiate (e.g., stiles, fallen tree trunks) or sensory phenomena that instil collective moments of curiosity, appreciation or excitement (Doughty, 2013). Joining visually impaired walking groups as a sighted guide, Macpherson (2009; 2017) describes the 'intercorporeal emergence' of landscape between walker and guide, and the intricate multisensory knowledges developed by walking pairs to embody and co-navigate more challenging terrains. Grant et al. (2017) highlight how the speed of a walking group can shape people's depth of sensory attunement and aesthetic appreciation, while Paddon (2020) demonstrates how shared mobilities can be both detrimental or therapeutic depending on the social context.

While these diverse aspects of haptic engagement are an increasing focus in the therapeutic landscapes literature, further work could be conducted into the 'historically sedimented bodily dispositions and patterns of haptic experience that become habituated over time' (Paterson, 2009: 779), and how this varies across diverse cultures and embodiments to shape individual and collective therapeutic expectations and opportunities for 'therapeutic accretion' (Foley, 2017). It is particularly important not to romanticise the therapeutic potential of such experiences, and further work is needed to explore differential mobilities – or differential haptics – with non-human nature (Bell and Cook, 2022). While studies have discussed the rush and adrenaline of successfully navigating so-called 'risky' nature encounters (Wu and Yang, 2021), the legacy of the hyperfit 'wilderness ideal' continues to create racial, gendered, ableist and classist exclusions from a diversity of settings often categorised as 'natural' in some shape or form (Ray, 2009). Scholarship at the intersection of critical disability studies and the environmental humanities offers useful insights here, foregrounding the 'centrality of the body as a connection to the physical environment',

while rejecting the assertion that 'only certain kinds of physical activities (walking, mountain-climbing), and only certain kinds of bodies, permit this connection' (Ray, 2009: 274).

7. Flavourless therapeutic encounters?

The sense of taste has received by far the least attention to-date within the literature reviewed. Historically, there was perceived curative value in drinking sacred waters (Harris, 2013), but this was less about taste than mineral content and the wider therapeutic assemblage around such settings (Gesler, 2003; Foley, 2011). Reflecting on the self-care experiences of breast cancer survivors, Liamputtong and Suwankhong (2015) discuss efforts to incorporate home grown produce but again this is less about taste than aspirations to minimise the intake of potential toxins.

Fleeting references are made to, for example, the medicinal value of edible plants and herbs (Lucke et al., 2019), as well as the taste of tea (Marsh et al., 2017; Su and Zhang, 2020), tropical fruit and vegetables (Chen and Wang, 2022), salty sea air (Britton and Foley, 2021; Jellard and Bell, 2021), foraged berries (Grant and Pollard, 2022), visiting a sugar shack (Boucher et al., 2019), and the joy of preparing and sharing food within broader therapeutic settings, such as ice creams and barbecues at the seafront (Maddrell, 2013; Bell et al., 2017; Meijering et al., 2017; Satariano, 2019), campfires (Liu et al., 2017) and care farm settings (Gorman, 2017a; Kaley et al., 2019b). Traditional medicine and herbalism are discussed (Bignante, 2015; Majeed, 2021), as well as the consumption of alcohol (Foley, 2013) and local delicacies (Wu and Yang, 2021), but in each case with little or no actual focus on the sense of taste. It is interesting to note that the absence of taste in a therapeutic environment is explicitly addressed by Brooke and Williams (2020: 1282) when they report that one participant tasted thousand-year-old ice and noted that 'it didn't taste like anything because it's so pure'.

While not in the context of therapeutic landscapes, Vannini et al. (2010: 379) lament the prominence of 'flavourless ethnographic writing' and call for more 'tasteful' scholarship that pays greater attention to the senses of taste – such as sweetness, bitterness, sourness, saltiness and acidity – and the emotional and embodied transformations they effect. Such work would attend to and contextualise the sensations of taste and texture, recognising the role of locale, weather, temporality, conviviality or solitude, sensual knowledge and prominent symbolism in shaping taste expectations, experiences and interpretations. Vannini et al. (2010) also suggest the need for new taste vocabularies (verbal or otherwise) to help transform what are often highly personal sensations into communal knowledges and shared experiences. The absence of such vocabularies perhaps explains the limited attention to the gustatory sense within the nature-based therapeutic landscapes scholarship to-date. A loss or distorted sense of taste and smell has been a common experience amongst people with COVID-19 in recent years (Ahmed et al., 2022); such sensory disruptions – as well as more prolonged experiences of sensory impairment – may offer valuable opportunities to develop these new vocabularies and create space for new methodological thinking and important empirical perspectives on the emergence (or loss) of therapeutic sensescape.

Concluding remarks

In this paper, we have shared the findings of an in-depth scoping review to chart how the senses have been attended to across the therapeutic landscapes literature, focusing on the role of the senses within so-called 'nature-based' therapeutic encounters. While these encounters are often framed in terms of colour – be they green, blue, white or yellow spaces – this review emphasises the importance of going beyond such palettic framings to engage with the processes and temporalities of intimate, visceral place sensing. While the visual remains the prominent sense across the literature reviewed, there has been an increased attention to sonic, haptic and olfactory qualities of therapeutic

encounter. However, there is more work to be done in deepening these insights, including a need to embed more ‘flavour’ in the conduct, analysis and reporting of such scholarship. That said, it should be acknowledged that strict word counts in many academic journals may limit the breadth and richness of sensory description that can be included within published papers.

Through the review, we have drawn on wider sensory scholarship to signpost fruitful avenues for enriching this evidence base, while keeping central the tripartite physical, social and symbolic dimensions of therapeutic encounter (Kearns and Milligan, 2020). In Vannini et al.’s words (2010: 378), more sensuous scholarship would help ‘recognise the meaningfulness of our somatic experience in the world, to understand the skilful activities through which we actively make and remake the world through our senses, and to develop evocative strategies of representation – to write sensuously’. In line with calls for a more-than-representational health geography, characterised by deeper engagement with ‘the affective and material expression or emergence of place’ (Andrews and Duff, 2019: 128), we have also highlighted opportunities to foreground sensory insights (beyond the visual) through complementary sensory methodologies. Across this work, however, care is needed to ‘illuminate how bodies, objects, spaces and intersubjective worlds are (unevenly and differentially) composed’ (Kinkaid, 2021: 301), contextualising individual therapeutic sensory experiences within ‘trans-personal relations of power and historically-specific social relations’ (2021: 301). Most of the studies reviewed here used qualitative and/or forms of documentary analysis, including a mix of semi-structured interviews, PhotoVoice methods, ethnographic and in situ methods. There are many ways of expanding these approaches to contribute to critical, sensuous therapeutic landscape scholarship, including sensory ethnography methodologies (Pink, 2009) as well as efforts to incorporate, develop, or build on elements of sensory history (Bates, 2021; Hickman, 2022).

Contemporary and historical sensory insights could be integrated to understand how place is marked – and different bodies in place – by particular socio-cultural and personal signifiers that shape the sensory emergence of therapeutic encounter. Recognising sensory perception as ‘socially and culturally constructed, specific to time and place’ (Tullett, 2021: 804), scholars in the arts and humanities have been developing multisensory approaches to consider how different people may have embodied, inhabited, and interpreted therapeutic landscapes of the past. Examples include Baker’s (2018) work on the connections between concepts of ‘air’ and health in the Pompeian gardens of Ancient Rome, and the ongoing work of the Hospital Senses Collective (2022) which has considered movement as well as broader more-than-human multisensory interactions in the modern hospital. This work shifts away from a narrow focus on individual senses, instead adopting multisensory approaches that can enrich, and provide a broader temporal and spatial framework, to understand the (uneven) emergence of therapeutic landscape experiences.

While the geographical reach of the therapeutic landscapes scholarship is broadening, much of the work identified in this review was conducted within Europe, North America and Australasia. There has been a substantial increase in recent years in scholarship exploring therapeutic landscape experiences in China. However, research on this topic in Africa, South America and wider parts of Asia remains sparse. Very few studies engaged in cross-cultural comparisons, offering limited insight into ‘the diversity of human experience and the role that culture plays in organising meaning and mediating environmental information’ (Keating and Hadder, 2010: 116). Given the need to move ‘beyond Western tides’ (Wheaton et al., 2020) to counter dominant cultural and epistemic assumptions about the sensorium, health and how health unfolds in place, it is important to bring new, anticolonial perspectives to this growing body of scholarship. Such efforts could consider the problematic colonial and imperial histories of culturally celebrated landscapes reputed as therapeutic, including historical connections between slave-ownership and colonial wealth in otherwise idealised,

‘picturesque’ countryside landscapes, and the exploitative colonial roots of many valued ornamental gardens and botanical collections (Fowler, 2021). The tripartite focus on the physical, social and symbolic dimensions of therapeutic encounter (Kearns and Milligan, 2020) could also usefully be expanded to examine the entrenched structural inequalities and political-economic systems (past and present) that push therapeutic sensory possibilities out of reach for many individuals and communities globally. Without such critical perspectives, the potential for therapeutic sensescape encounters will become a privileged commodity for those with affluence and access, and an increasingly elusive prospect for everyone else.

Declaration of Competing Interest

The authors have no conflicts of interest to declare.

Acknowledgements

We would like to thank the Arts and Humanities Research Council for funding our ‘Unlocking Landscapes’ Network (AH/T006080/1), a network that has encouraged new attention to the historical and cultural factors that underpin how people enact and understand their sensory encounters with landscape.

References

- Abramovic, J., Turner, B., Hope, C., 2019. Entangled recovery: refugee encounters in community gardens. *Local Environ.* 24, 696–711.
- Ahmadu, M., Herron, R.V., Allan, J.A., Waddell, C.M., 2021. Identifying places that foster mental health and well-being among rural men. *Health Place* 71, 102673.
- Ahmed, A.K., Sayad, R., Mahmoud, I.A., Abd El-Monem, A.M., Badry, S.H., Ibrahim, I.H., Hafz, M.H.R., El-Mokhtar, M.A., Sayed, I.M., 2022. ‘Anosmia’ the mysterious collateral damage of COVID-19. *J. Neurovirol.* 28, 189–200.
- Andrews, G.J., 2004. (Re)thinking the dynamics between healthcare and place: therapeutic geographies in treatment and care practices. *Area* 36 (3), 307–318.
- Andrews, G.J., Chen, S., Myers, S., 2014. The ‘taking place’ of health and wellbeing: towards non-representational theory. *Soc. Sci. Med.* 108, 210–222.
- Andrews, G.J., Duff, C., 2019. Matter beginning to matter: on posthumanist understandings of the vital emergence of health. *Soc. Sci. Med.* 226, 123–134.
- Arksey, H., O’Malley, L., 2005. Scoping studies: towards a methodological framework. *Int. J. Soc. Res. Methodol.* 8 (1), 19–32.
- Baker, P., 2018. Identifying the connection between Roman conceptions of ‘Pure Air’ and physical and mental health in Pompeian gardens (c.150 BC–AD 79): a multi-sensory approach to ancient medicine. *World Archaeol.* 50 (3), 404–417.
- Bates, V., 2019. Sensing space and making place: the hospital and therapeutic landscapes in two cancer narratives. *Med. Humanit.* 45, 10–20.
- Bates, V., 2021. *Making Noise in the Modern Hospital*. Cambridge University Press, Cambridge.
- Bell, S.L., Cook, S., 2022. Healthy Mobilities. *Transfers: Interdisciplinary Journal of Mobilities Studies* 11 (2), 98–108.
- Bell, S.L., Foley, R., Houghton, F., Maddrell, A., Williams, A., 2018. From therapeutic landscapes to healthy spaces, places and practices: A scoping review. *Soc. Sci. Med.* 196, 123–130.
- Bell, S.L., Phoenix, C., Lovell, R., Wheeler, B.W., 2015. Seeking everyday wellbeing: the coast as a therapeutic landscape. *Soc. Sci. Med.* 142, 56–67.
- Bell, S.L., Wheeler, B.W., Phoenix, C., 2017. Using geonarratives to explore the diverse temporalities of therapeutic landscapes: perspectives from “green” and “blue” settings. *Ann. Am. Assoc. Geogr.* 107 (1), 93–108.
- Biglin, J., 2020. Embodied and sensory experiences of therapeutic space: refugee place-making within an urban allotment. *Health Place* 62, 102309.
- Biglin, J., 2021. Photovoice accounts of third places: refugee and asylum seeker populations’ experiences of therapeutic space. *Health Place* 71, 102663.
- Bigante, E., 2015. Therapeutic landscapes of traditional healing: building spaces of well-being with the traditional healer in St. Louis, Senegal. *Soc. Cult. Geogr.* 16 (6), 698–713.
- Bignante, E., 2020. Homeless healers and the production of landscapes of healing and wellbeing on the Venice Beach boardwalk, Los Angeles. *Geoforum* 113, 92–100.
- Birch, J., Rishbeth, C., Payne, S.R., 2020. Nature doesn’t judge you – how urban nature supports young people’s mental health and wellbeing in a diverse UK city. *Health Place* 62, 102296.
- Boucher, M.-E., Groleau, D., Whitley, R., 2019. Recovery from severe mental illness in Québec: the role of culture and place. *Health Place* 56, 63–69.
- Braun, B., 2005. Environmental issues: writing a more-than-human urban geography. *Prog. Hum. Geogr.* 29 (5), 635–650.
- Britton, E., Foley, R., 2021. Sensing water: uncovering health and well-being in the sea and surf. *J. Sport Soc. Issues* 45 (1), 60–87.
- Brooke, K., Williams, A., 2020. Iceland as a therapeutic landscape: white wilderness spaces for well-being. *GeoJournal* 86, 1275–1285.

- Brown, K.M., 2017. The haptic pleasures of ground-feel: the role of textured terrain in motivating regular exercise. *Health Place* 46, 307–314.
- Brown, S.D., Reavey, P., 2019. Vital spaces and mental health. *Med. Humanit.* 45, 131–140.
- Butterfield, A., Martin, D., 2016. Affective sanctuaries: understanding Maggie's as therapeutic landscapes. *Landsc. Res.* 41 (6), 695–70.
- Cacciatore, J., Gorman, R., Thielemann, K., 2020. Evaluating care farming as a means to care for those in trauma and grief. *Health Place* 62, 102281.
- Carolan, M.S., 2009. 'I do therefore there is': enlivening socio-environmental theory. *Environ. Polit.* 18 (1), 1–17.
- Castree, N., 2005. *Nature: the Adventures of a Concept*. Routledge, London.
- Castree, N., 2013. *Making Sense of Nature*. Routledge, Abingdon.
- Cheesbrough, A.E., Garvin, T., Nykiforuk, C.I.J., 2019. Everyday wild: urban natural areas, health and well-being. *Health Place* 56, 43–52.
- Chen, J., Wang, B., 2022. Mobilising therapeutic landscapes: lifestyle migration of the *Houmao* and the spatio-temporal encounters with nature. *Geoforum* 131, 206–214.
- Cheng, Y., Rosenberg, M.W., Wang, W., Yang, L., Li, H., 2011. Aging, health and place in residential care facilities in Beijing, China. *Soc. Sci. Med.* 72 (3), 365–372.
- Coleman, T., Kearns, R., 2015. The role of blue spaces in experiencing place, aging and wellbeing: insights from Waiheke Island, New Zealand. *Health Place* 35, 206–217.
- Collins, J., Avey, S., Lekkas, P., 2016. Lost landscapes of healing: the decline of therapeutic mental health landscapes. *Landsc. Res.* 41 (6), 664–677.
- Conradson, D., 2005. Landscape, care and the relational self: therapeutic encounters in rural England. *Health Place* 11, 337–348.
- Csikszentmihalyi, M., 2002. *Flow*. Rider, London.
- Dinnie, E., Brown, K.M., Morris, S., 2013. Community, cooperation and conflict: negotiating the social wellbeing benefits of urban greenspace experiences. *Landsc. Urban Plan.* 118, 103–111.
- Doughty, K., 2013. Walking together: the embodied and mobile production of a therapeutic landscape. *Health Place* 24, 140–146.
- Doughty, K., Hu, H., Smit, J., 2022. Therapeutic landscapes during the COVID-19 pandemic: increased and intensified interactions with nature. *Soc. Cult. Geogr.* <https://doi.org/10.1080/14649365.2022.2052168>.
- Duedahl, E., Blichfeldt, B., Liburd, J., 2020. How engaging with nature can facilitate active healthy ageing. *Tourism Geogr.: Int. J. Tourism Space, Place Environ.* <https://doi.org/10.1080/14616688.2020.1819398>.
- Duff, C., 2011. Networks, resources and agencies: on the character and production of enabling places. *Health Place* 17 (1), 149–156.
- Duff, C., 2012. Exploring the role of 'enabling places' in promoting recovery from mental illness. A qualitative test of a relational model. *Health Place* 18, 1388–1395.
- Duffy, M., 2010. Sound ecologies. *Cult. Stud. Rev.* 16 (1), 43–59.
- Duffy, M., Waitt, G., Gorman-Murray, A., Gibson, C., 2011. Bodily rhythms: corporeal capacities to engage with festival spaces. *Emot. Space Soc.* 4, 17–24.
- Duffy, M., Waitt, G., 2013. Home sounds: experiential practices and performativities of hearing and listening. *Soc. Cult. Geogr.* 14 (4), 466–481.
- Duffy, M., Waitt, G., Harada, T., 2016. Making sense of sound: visceral sonic mapping as a research tool. *Emot. Space Soc.* 20, 49–57.
- Dunkley, C.M., 2009. A therapeutic taskspace: theorizing place-making, discipline and care at a camp for troubled youth. *Health Place* 15, 88–96.
- Eastoe, S., 2016. Relieving gloomy and objectless lives'. The landscape of Caterham Imbecile Asylum. *Landsc. Res.* 41 (6), 652–663.
- Edgley, A., Pilnick, A., Clarke, M., 2011. 'The air still wasn't good everywhere I went I was surrounded': lay perceptions of air quality and health. *Health Sociol. Rev.* 20 (1), 97–108.
- Emmerson, P., 2019. More-than-therapeutic landscapes. *Area* 51, 595–602.
- Evans, J., 2014. Painting therapeutic landscapes with sound: *on land* by Brian Eno. In: Andrews, G.J., Kingsbury, P., Kearns, R. (Eds.), *Soundscape of Wellbeing in Popular Music*. Ashgate Publishing Ltd, Farnham, pp. 173–187.
- Finlay, J., Franke, T., McKay, H., Sims-Gould, J., 2015. Therapeutic landscapes and wellbeing in later life: impacts of blue and green spaces for older adults. *Health Place* 34, 97–106.
- Finlay, J.M., 2018. 'Walk like a penguin': older Minnesotans' experiences of (non) therapeutic white space. *Soc. Sci. Med.* 198, 77–84.
- Foley, R., 2011. Performing health in place: the holy well as a therapeutic assemblage. *Health Place* 17 (2), 470–479.
- Foley, R., 2013. Small health pilgrimages: place and practice at the holy well. *Cult. Relig.* 14 (1), 44–62.
- Foley, R., 2014. The Roman-Irish Bath: medical/health history as therapeutic assemblage. *Soc. Sci. Med.* 106, 10–19.
- Foley, R., 2015. Swimming in Ireland: immersions in therapeutic blue space. *Health Place* 35, 218–225.
- Foley, R., 2017. Swimming as an accretive practice in healthy blue space. *Emot. Space Soc.* 22, 43–51.
- Foley, R., 2020. Therapeutic landscapes. In: Kobayashi, A. (ed.) *International Encyclopedia of Human Geography*, Second Edition. Oxford. Elsevier, pp. 245–250.
- Fowler, C. 2021. *Green unpleasant land. Creative responses to rural England's colonial connections*. Leeds: Peepal Tree Press Ltd.
- Fullagar, S., O'Brien, W., 2018. Rethinking women's experiences of depression and recovery as emplacement: spatiality, care and gender relations in rural Australia. *J. Rural Stud.* 58, 12–19.
- Gallagher, M., Kannigieser, A., Prior, J., 2017. Listening geographies: landscape, affect and geotechnologies. *Prog. Hum. Geogr.* 41 (5), 618–637.
- Garside, R., 2014. Should we appraise the quality of qualitative research reports for systematic reviews, and if so, how? *Innov.: Eur. J. Soc. Sci. Res.* 27 (1), 67–79.
- Gastaldo, D., Andrews, G.J., Khanlou, N., 2004. Therapeutic landscapes of the mind: theorizing some intersections between health geography, health promotion and immigration studies. *Crit. Public Health* 14 (2), 157–176.
- Gatrell, A.C., 2013. Therapeutic mobilities: walking and 'steps' to wellbeing and health. *Health Place* 22, 98–106.
- Gesler, W., 1992. Therapeutic landscapes: medical issues in the light of the new cultural geography. *Soc. Sci. Med.* 34, 735–746.
- Gesler, W., 1993. Therapeutic landscapes: theory and a case study of Epidauros, Greece. *Environ. Plan. D* 11, 171–189.
- Gesler, W., 1996. Lourdes: healing in a place of pilgrimage. *Health Place* 2, 95–105.
- Gesler, W., 1998. Bath's reputation as a healing place. In: Kearns, R., Gesler, W. (Eds.), *Putting Health into Place*. Syracuse University Press, Syracuse, NY.
- Gesler, W., 2003. *Healing Places*. Rowman & Littlefield, Maryland, US.
- Goodkind, J.R., Gorman, B., Hess, J.M., Parker, D.P., Hough, R.L., 2015. Reconsidering culturally competent approaches to American Indian Healing and Well-being. *Qual. Health Res.* 25 (4), 486–499.
- Gorman, R., 2017a. Smelling therapeutic landscapes: embodied encounters within spaces of care farming. *Health Place* 47, 22–28.
- Gorman, R., 2017b. Therapeutic landscapes and non-human animals: the roles and contested positions of animals within care farming assemblages. *Soc. Cult. Geogr.* 18 (3), 315–335.
- Gorman, R., 2019. Thinking critically about health and human-animal relations: therapeutic affect within spaces of care farming. *Soc. Sci. Med.* 231, 6–12.
- Granö, J.G., 1997. Pure geography. In: Granö, O., Paasi, A. (Eds.), *Translated by Malcolm Hicks*. The John Hopkins University Press, Baltimore.
- Grant, G., Pollard, N., Allmark, P., Machaczek, K., Ramcharan, P., 2017. The social relations of a health walk group: an ethnographic study. *Qual. Health Res.* 27 (11), 1701–1712.
- Grant, G., Pollard, N., 2022. Health group walks: making sense of associations with the natural landscape. *Leisure Stud.* 41 (1), 85–99.
- Guthman, J., Mansfield, B., 2013. The implications of environmental epigenetics: a new direction for geographic inquiry on health, space, and nature-society relations. *Prog. Hum. Geogr.* 37 (4), 486–504.
- Hall, E., 2000. Blood, brain and bones: taking the body seriously in the geography of health and impairment. *Area* 32 (1), 21–29.
- Handlovsky, I., Ferlatte, O., Kia, H., Knight, R., Broom, A., Oliffe, J., 2022. Processes underpinning survival in gay men living with HIV and a history of suicidality. *Sociol. Health Illness*. <https://doi.org/10.1111/1467-9566.13500>.
- Harris, A., Guilleman, M., 2012. Developing sensory awareness in qualitative interviewing: a portal into the otherwise unexplored. *Qual. Health Res.* 22, 689–699.
- Harris, A., 2013. Lourdes and holistic spirituality: contemporary catholicism, the therapeutic and religious thermalism. *Cult. Relig.* 14 (1), 23–43.
- Havlick, D.G., Cervený, L.K., Derrien, M.M., 2021. Therapeutic landscapes, outdoor programs for veterans, and public lands. *Soc. Sci. Med.* 268, 113540.
- Heck, E., Tsai, M., 2022. Sharing therapeutic experiences of place: co-creative digital storytelling as a way to explore connection to place. *Emot. Space Soc.* 43, 100879.
- Hickman, C., 2013. *Therapeutic Landscapes: A History of English Hospital Gardens since 1800*. Manchester University Press, Manchester.
- Hickman, C., 2009. Cheerful prospects and tranquil restoration: the visual experience of landscape as part of the therapeutic regime of the British asylum, 1800–1860. *Hist. Psychiatry* 20, 4.
- Hickman, C., 2022. Pine fresh: the cultural and medical context of pine scent in relation to health – from the forest to the home. *Med. Humanit.* 48, 104–113.
- Houghton, F., Houghton, S., 2013. Exploring imagined therapeutic landscapes: trainee social care practitioners in Ireland. *Irish Geogr.* 46 (1–2), 79–90.
- Houghton, F., Houghton, S., 2015. Therapeutic micro-environments in the Edgelands: A thematic analysis of Richard Mabey's *The Unofficial Countryside*. *Soc. Sci. Med.* 133, 280–286.
- Howarth, M., Lawlor, C., da Silva, A., 2021. Creating a transformative space for change: a qualitative evaluation of the RHS Wellbeing Programme for people with long term conditions. *Health Place* 71, 102654.
- Howes, D., Classen, C., 2014. *Ways of Sensing: Understanding the Senses in Society*. Abingdon, Routledge.
- Ireland, A.V., Finnegan-John, J., Hubbard, G., Scanlon, K., Kyle, R.G., 2019. Walking groups for women with breast cancer: mobilising therapeutic assemblages of walk, talk and place. *Soc. Sci. Med.* 231, 38–46.
- Jackson, J., 2018. Growing the community – a case study of community gardens in Lincoln's Abbey Ward. *Renew. Agric. Food Syst.* 33 (6), 530–541.
- Jeffries, J.M., 2018. Negotiating acquired spinal conditions: recovery with/in bodily materiality and fluids. *Soc. Sci. Med.* 211, 61–69.
- Jellard, S., Bell, S.L., 2021. A fragmented sense of home: reconfiguring therapeutic coastal encounters in COVID-19 times. *Emot. Space Soc.* 40, 100818.
- Jewkes, Y., Moran, D., 2020. Just add water: prisons, therapeutic landscapes and healthy blue space. *Criminol. Crim. Justice* 20 (4), 381–398.
- Jones, K., 2018. The lungs of the city: green space, public health and bodily metaphor in the landscape of urban park history. *Environ. Hist. Camb.* 24, 39–58.
- Kaley, A., Hatton, C., Milligan, C., 2019a. Health geography and the 'performative' turn: making space for the audio-visual in ethnographic health research. *Health Place* 60, 102210.
- Kaley, A., Hatton, C., Milligan, C., 2019b. Therapeutic spaces of care farming: transformative or ameliorating? *Soc. Sci. Med.* 227, 10–20.
- Kearns, R., 1993. Place and health: towards a reformed medical geography. *Professional Geogr.* 45 (2), 139–147.
- Kearns, R., Collins, D., Conradson, D., 2014. A healthy island blue space: from space of detention to site of sanctuary. *Health Place* 30, 107–115.

- Kearns, R., Milligan, C., 2020. Placing therapeutic landscape as theoretical development in *Health & Place*. *Health Place* 61, 102224.
- Keating, E., Hadder, R.N., 2010. Sensory Impairment. *Annu. Rev. Anthropol.* 39, 115–129.
- Kelly, C., 2018. 'I Need the Sea and the Sea Needs Me': Symbiotic Coastal Policy Narratives for Human Wellbeing and Sustainability in the UK, 97. *Marine Policy*, pp. 223–231.
- Kinkaid, E., 2021. Is post-phenomenology a critical geography? Subjectivity and difference in post-phenomenological geographies. *Prog. Hum. Geogr.* 45 (2), 298–316.
- Laws, J., 2009. Reworking therapeutic landscapes: the spatiality of an 'alternative' self-help group. *Soc. Sci. Med.* 69, 1827–1833.
- Lea, J., 2008. Retreating to nature: rethinking 'therapeutic landscapes'. *Area* 40 (1), 90–98.
- Lea, J. 2009. Post-phenomenology/post-phenomenological geographies. In: Kitchen, R., Thrift, N. (Eds.) *International Encyclopedia of Human Geography*, 8, 373–378, Elsevier.
- Lengen, C., 2015. The effects of colours, shapes and boundaries of landscapes on perception, emotion and mentalising processes promoting health and well-being. *Health Place* 35, 166–177.
- Levac, D., Colquhoun, H., O'Brien, K.K., 2010. Scoping studies: advancing the methodology. *Implement. Sci.* 5 (69) <https://doi.org/10.1186/1748-5908-5-69>.
- Liamputtong, P., Suwankhong, D., 2015. Therapeutic landscapes and living with breast cancer: the lived experiences of Thai women. *Soc. Sci. Med.* 128, 263–271.
- Little, J., 2012. Transformational tourism, nature and wellbeing: new perspectives on fitness and the body. *Sociol. Ruralis* 52 (3), 257–271.
- Liu, P., Gilchrist, P., Taylor, B., Ravenscroft, N., 2017. The spaces and times of community farming. *Agric. Hum. Values* 34, 363–375.
- Liu, Y., Li, C., Li, Y., 2021. Impact of leisure environmental supply on new urban pathology: a case study of Guangzhou and Zhuhai. *Humanit. Soc. Sci. Commun.* (8), 297. <https://doi.org/10.1057/s41599-021-00980-x>.
- Lucke, S., Mamo, E., Koenigstorfer, J., 2019. Exploring the meaning of growing food in community gardens to South African township residents: a photovoice study. *Health Place* 55, 165–176.
- Macnaghten, P., Urry, J., 1998. *Contested Natures*. Sage Publications Ltd, London.
- Macpherson, H., 2009. The intercorporeal emergence of landscape: negotiating sight, blindness, and ideas of landscape in the British countryside. *Environ. Plan. A*, 41, 1042–1054.
- Macpherson, H., 2017. Walking with visual impairments in the British countryside: picturesque legacies, collective enjoyments and well-being benefits. *J. Rural Stud.* 51, 251–258.
- Maddrell, A., 2013. Moving and being moved: more-than-walking and talking on pilgrimage walks in the Manx landscape. *Cult. Relig.* 14 (1), 63–77.
- Majeed, M.D., 2021. Continuity of care: the ongoing use of "bush medicine" as a *transnational therapeutic health practice* in Guyanese immigrant communities. *Health Place* 71, 102643.
- Marsh, P., Gartrell, G., Egg, G., Nolan, A., Cross, M., 2017. End-of-Life care in a community garden: findings from a Participatory Action Research project in regional Australia. *Health Place* 45, 110–116.
- McLean, A., 2007. The therapeutic landscape of dementia care: contours of intersubjective spaces for sustaining the person. In: Williams, A. (Ed.), *Therapeutic Landscapes*. Ashgate Publishing Ltd, Surrey, pp. 315–332.
- McNamara, M., Murphy, A., Dowler, F., Foley, R., 2020. Blue spaces as resources for health and wellbeing: survey comparisons of indoor and outdoor settings from Ireland. *Rev. Estud. Andalus* 39, 8–22.
- McQuoid, J., 2017. Finding joy in poor health: the leisure-scapes of chronic illness. *Soc. Sci. Med.* 183, 88–96.
- Meijering, L., Lettinga, A.T., Nanninga, C.S., Milligan, C., 2017. Interpreting therapeutic landscape experiences through rural stroke survivors' biographies of disruption and flow. *J. Rural Stud.* 51, 275–283.
- Milligan, C., Gartrell, A., Bingley, A., 2004. Cultivating health': therapeutic landscapes and older people in northern England. *Soc. Sci. Med.* 58, 1781–1793.
- Milligan, C., 2007. Restoration or risk. Exploring the place of the common place (Ed). In: Williams, A. (Ed.), *Therapeutic Landscapes*. Ashgate Publishing Ltd, Surrey, pp. 255–272.
- Milligan, C., Bingley, A., 2007. Restorative places or scary spaces? The impact of woodland on the mental well-being of young adults. *Health Place* 13, 799–811.
- Milligan, C., Chalfont, G., Kaley, A., Lobban, F., 2021. Wilderness as therapeutic landscape in later life: towards an understanding of place-based mechanisms for wellbeing through nature-adventure activity. *Soc. Sci. Med.* 289, 114411.
- Mokos, J.T., 2017. Stigmatised places as therapeutic landscapes. The beneficial dimensions of river-bottom homeless encampments. *Med. Anthropol. Theory* 4 (1), 123–150.
- Moon, G., Kearns, R., Joseph, A., 2006. Selling the private asylum: therapeutic landscapes and the (re)valorisation of confinement in the era of community care. *Trans. Inst. Br. Geogr.* 31 (2), 131–149.
- Muenchberger, H., Ehrlich, C., Kendall, E., Vit, M., 2012. Experience of place for young adults under 65 years with complex disabilities moving into purpose-built residential care. *Soc. Sci. Med.* 75, 2151–2159.
- Nettleton, S., 2015. Fell runners and walking walls: towards a sociology of living landscapes and aesthetic atmospheres as an alternative to a Lakeland picturesque. *Br. J. Sociol.* 66 (4), 759–778.
- Ouyang, Y., Cai, X., Li, J., Gao, Q., 2022. Investigating the "embodied spaces of health" in marathon running: the roles of embodiment, wearable technology, and affective atmospheres. *Int. J. Environ. Res. Public Health* 19 (1). <https://doi.org/10.3390/ijerph19010043>.
- Pace, J., 2020. "Place-ing" dementia prevention and care in NunatuKavut, Labrador. *Can. J. Aging* 39 (2), 247–262.
- Paddon, L.L., 2020. Therapeutic or detrimental mobilities? Walking groups for older adults. *Health Place* 63, 102346.
- Panelli, R., 2010. More-than-human social geographies: posthuman and other possibilities. *Prog. Hum. Geogr.* 34 (1), 79–87.
- Parr, H., 2007. Mental health, nature work, and social inclusion. *Environ. Plan. D: Soc. Space* 25, 537–561.
- Parr, H., Philo, C., Burns, N., 2003. 'That awful place was home': reflections on the Contested Meanings of Craig Dunain asylum. *Scottish Geogr. J.* 119 (4), 341–360.
- Pascal, J., 2010. Space, place and psychosocial wellbeing: women's experience of breast cancer at an environmental retreat. *Illness. Crisis Loss* 18 (3), 201–216.
- Paterson, M., 2009. Haptic geographies: ethnography, haptic knowledges and sensuous dispositions. *Prog. Hum. Geogr.* 33 (6), 766–788.
- Petty, K., 2016. Walking through the woodlands: learning to listen with companions who have impaired vision. In: Bull, M., Back, L. (Eds.), *The Auditory Culture Reader*, 2nd Edition. Bloomsbury Publishing Plc, London, pp. 173–184.
- Phillips, R., Evans, B., Muirhead, S., 2015. Curiosity, place and wellbeing: encouraging place-specific curiosity as a 'way to wellbeing'. *Environ. Plan. A*, 47, 2339–2354.
- Piat, M., Seida, K., Sabetti, J., Padgett, D., 2017. Emplacing recovery: sites of health and wellness for individuals with serious mental illness in supported housing. *Health Place* 47, 71–79.
- Pink, S., 2009. *Doing Sensory Ethnography*. SAGE Publications Ltd, London.
- Pitt, H., 2014. Therapeutic experiences of community gardens: putting flow in its place. *Health Place* 27, 84–91.
- Pitt, H., 2018. Muddying the waters: what urban waterways reveal about bluespaces and wellbeing. *Geoforum* 92, 161–170.
- Plane, J., Klodawsky, F., 2013. Neighbourhood amenities and health: examining the significance of a local park. *Soc. Sci. Med.* 99, 1–8.
- Prior, J., 2017. Sonic environmental aesthetics and landscape research. *Landsc. Res.* 42 (1), 6–17.
- Rahtz, E., Warber, S.L., Goldingay, S., Dieppe, P., 2021. Transcendent experiences among pilgrims to Lourdes: a qualitative investigation. *J. Relig. Health* 60, 3788–3806.
- Ratcliffe, E., Gatersleben, B., Sowden, P.T., 2013. Bird sounds and their contributions to perceived attention restoration and stress recovery. *J. Environ. Psychol.* 36, 221–228.
- Ray, S.J., 2009. Risking bodies in the wild: the "corporeal unconscious" of american adventure culture. *J. Sport Soc. Issues* 33 (3), 257–284.
- Revill, G., 2016. How is space made in sound? Spatial mediation, critical phenomenology and the political agency of sound. *Prog. Hum. Geogr.* 40 (2), 240–256.
- Rodaway, P., 1994. *Sensuous Geographies: Body, Sense and Place*. Abingdon, Routledge.
- Rose, E., Lonsdale, S., 2016. Painting place: re-imagining landscapes for older people's subjective wellbeing. *Health Place* 40, 58–65.
- Rose, M., Wylie, J., 2006. Animating landscape. *Environ. Plan. D* 24, 475–479.
- Russell, Z., Beattie, L., Heaney, D., 2021. Spaces of well-being: social crofting in rural Scotland. *J. Rural Stud.* 86, 145–154.
- Saerberg, S., 2010. Just go straight ahead. *Senses Soc.* 5 (3), 364–381.
- Satariano, B., 2019. Blue therapeutic spaces on islands: coastal landscapes and their impact on the health and wellbeing of people in Malta. *Island Stud. J.* 14 (2), 245–260.
- Schafer, R.M., 1977. *The soundscape: Our sonic Environment and the Tuning of the World*. Destiny Books, Rochester.
- Severin, M.I., Raes, F., Notebaert, E., Lambrecht, L., Everaert, G., Buysse, A., 2022. A qualitative study on emotions experienced at the coast and their influence on well-being. *Front. Psychol.* <https://doi.org/10.3389/fpsyg.2022.902122>.
- Sheridan, J., Chamberlain, K., 2011. The power of things. *Qual. Res. Psychol.* 8, 315–332.
- Shortt, N.K., Rhynas, S.J., Holloway, A., 2017. Place and recovery from alcohol dependence: a journey through photovoice. *Health Place* 47, 147–155.
- Smith, C.M., Trehan, G.J., Tumilty, S., 2017. "All those ingredients of the walk": the therapeutic spaces of dog-walking for people with long-term health conditions. *Anthrozoös: Multidiscip. J. Interact. People Anim.* 30 (2), 327–340.
- Smith, T.S.J., 2021. Therapeutic taskscapes and craft geography: cultivating well-being and atmospheres of recovery in the workshop. *Soc. Cult. Geogr.* 22 (2), 151–169.
- Straughan, E.R., 2012. Touched by water: the body in scuba diving. *Emot., Space Soc.* 5, 19–26.
- Su, X., Zhang, H., 2020. Tea drinking and the tastescapes of wellbeing in tourism. *Tourism Geogr.: Int. J. Tourism Space, Place Environ.* <https://doi.org/10.1080/14616688.2020.1750685>.
- Thrift, N., 2004. Movement-space: the changing domain of thinking resulting from the development of new kinds of spatial awareness. *Econ. Soc.* 33 (4), 582–604.
- Thomas, F., 2015. The role of natural environments within women's everyday health and wellbeing in Copenhagen, Denmark. *Health Place* 35, 187–195.
- Tsai, M., 2022. Vernacular healing landscapes in Australian aged-care gardens. *Landsc. Res.* 47 (3), 400–413.
- Tullett, W., 2021. State of the field: sensory history. *History* 106 (373), 804–820.
- Vaeztavakoli, A., Lak, A., Yigitcanlar, R., 2018. Blue and green spaces as therapeutic landscapes: health effects of urban water canal areas of Isfahan. *Sustainability* 10. <https://doi.org/10.3390/su10114010>.
- Vannini, P., Ahluwalia-Lopez, G., Waskul, D., Gottschalk, S., 2010. Performing taste at wine festivals: a somatic layered account of material culture. *Qual. Inq.* 16 (5), 378–396.
- Völker, S., Kistemann, T., 2013. I'm always entirely happy when I'm here! urban blue enhancing human health and well-being in Cologne and Düsseldorf, Germany. *Soc. Sci. Med.* 78, 113–124.

- Völker, S., Kistemann, T., 2015. Developing the urban blue: comparative health responses to blue and green urban open spaces in Germany. *Health Place* 35, 196–205.
- Wang, K., Cui, Q., Xu, H., 2018. Desert as therapeutic space: cultural interpretation of embodied experience in sand therapy in Xinjiang, China. *Health Place* 53, 173–181.
- Wheaton, B., Waiti, J., Cosgriff, M., Burrows, L., 2020. Coastal blue space and wellbeing research: looking beyond western tides. *Leisure Stud.* 39 (1), 83–95.
- Williams, A., 2007. *Therapeutic Landscapes*. Ashgate Publishing Ltd, Surrey.
- Windhorst, E., Williams, A., 2015. “It’s like a different world”: natural places, post-secondary students and mental health. *Health Place* 34, 241–250.
- Wood, V.J., Gesler, W., Curtis, S.E., Spencer, I.H., Close, H.J., Mason, J., Reilly, J.G., 2015. Therapeutic landscapes and the importance of nostalgia, solastalgia, salvage and abandonment for psychiatric hospital design. *Health Place* 33, 83–89.
- Wu, Y., Yang, J., 2021. Lifestyle skiing contributes to health and eudaimonic well-being: an emergent Chinese lifestyle mobility. *Tourism Geogr.: Int. J. Tourism Space, Place Environ.* <https://doi.org/10.1080/14616688.2021.1955958>.
- Wylie, J., 2007. *Landscape*. Abingdon, Routledge.
- Yang, P., Dai, S., Xu, H., Ju, P., 2018. Perceived environmental, individual and social factors of long-distance collective walking in cities. *Int. J. Environ. Res. Public Health* 15. <https://doi.org/10.3390/ijerph15112458>.
- Zhou, P., Grady, S.C., Rosenberg, M.W., 2021. Creating therapeutic spaces for the public: elderly exercisers as leaders in urban China. *Urban Geogr.* <https://doi.org/10.1080/02723638.2021.1979284>.