

This is a pre-copy edit, author-produced PDF of an article accepted following peer review for publication in *Cultural Geographies*.

Title: By-standing memories of curious observations: Children’s storied landscapes of ecological encounter

Authors:

Dr Ria Dunkley, University of Glasgow

Dr Thomas Aneurin Smith, Cardiff University

Abstract

Founded in contemporary concerns that children are increasingly disconnected from nature, this paper explores how children themselves re-imagine their memories of childhood experiences within the landscape of a National Park. The concept of ‘re-connecting’ children with ‘nature’ has recrystallised around conceptualisations of ‘slow-ecopedagogy’ as a form of ecological conscientisation. Through creative mapping with children from the Brecon Beacons National Park, Wales, this paper questions whether exposure to such environments pre-disposes young people to an environmental consciousness. Examining children’s creative representations of childhood memories from nonhuman encounters, and building on Philo’s discussion of ‘childhood reverie’, we develop the concept of *by-standing memories* to articulate how children themselves re-story their own memories, the landscapes in which they take place, and the nonhumans they include. Something of a ‘child panic’ currently surrounds the disconnect between children and ecology. Whilst some are concerned by this ‘child panic’, which positions children as ‘bystanders’ to adult affairs, we argue that *by-standing* is critical for how children tell stories of their dwellings in, and curious observations of, place. The re-telling of childhood memories stretches the conceptualisation of slow-ecopedagogy beyond the place of encounter, to the creative spaces of storying and re-telling, which are equally critical for memory itself.

Introduction

This paper concerns the now popular notion within philosophy¹ as well as geography² and more recently, ecopsychology³ that humans have created a false binary between nature and culture. Recently, Latour⁴ and others⁵ have argued that this disconnect lies at the heart of the contemporary environmental crisis. Concern is often expressed for how children experience this disconnect, and environmental educators and conservation organisations often target much of their efforts towards “connecting” children with “nature”⁶. A common assumption is that the environments to which one is exposed whilst growing up have significant implications for what children attend to in later life⁷, making nature-culture connections during childhood a concern for environmental educators and organisations. Thus, it is often assumed that growing up within rural spaces, such as national parks, may predispose young people living in such circumstances to experience this false binary to a lesser degree, than children living in urban areas⁸. The notion that it is impossible to establish such connections

within the city is being challenged by urban ecologists⁹, who raise awareness of the vast array of urban wildlife, as well as the green and blue spaces, and “edgelands”¹⁰ surrounding urban and industrial areas. Furthermore, while there is evidence to suggest that ‘significant life experience’¹¹ has key implications for the development of an ecological awareness, there are no empirical studies that have explored the impacts of living within the boundaries of national parks upon children and young people’s ecological consciousness.

This paper examines whether rural upbringings enhance children’s ecological awareness, as it is often assumed. We present results of an empirical study that explored how 14 children (aged 4-11) experienced everyday life in the Brecon Beacons National Park (BBNP) in Wales, UK. Child-led, creative mapping methods were employed to engage children of BBNP Authority employees to gain insights into their interactions with local and wider landscapes. Children’s “memories, emotions and feelings”¹² relating to their rural geographies remain underexplored. Our study thus draws upon traditions within children’s geographies, which involve children in the creation of hand-drawn mental mapping¹³, through which children consider familiar environments.

We sought to explore whether growing up within a rural context might constitute a form of “slow eco-pedagogy”¹⁴, which Payne¹⁵ defines in terms of the environmental learning opportunities emerging from undirected dwelling in place during field study visits. Similar to ecological encounters described in Lorimer’s¹⁶ study of undergraduate fieldtrips in Scotland, “walking, talking and sensing” are a means of engaging students with “taskscapes”¹⁷, raising consciousness of human and non-human connections and associated complexities. Alike to Payne’s “slow-ecopedagogy”, Lorimer draws upon Ingold’s notion of “taskscape” to conceptualise what animates the fieldtrip landscape. Taskscapes are made up of “embodied acts, performances and practices, and sounds and movements that we might ordinarily collapse into a readable landscape”¹⁸.

As might be expected, children in this study were quick to note the parks iconic mountains and lakes, and these sensational sites acquired meaning as the children developed memories or imaginings of encounters with these places, as connected to or reflective of, other spaces globally. More surprisingly, ‘significant’ ecological encounters often did not happen at a macro-landscape scale of the National Park. Rather, they occurred within the micro-scale of immediate childhood home surroundings, more akin to Philo’s¹⁹ conceptualisation of the “mundane reveries of childhood”, which although seemingly inconsequential in the moment, have the potential to persist in the memory of the beholder to frame future ecological consciousness²⁰. Philo²¹ stresses the non-homogeneity of childhood experiences and draws upon Bachelard²² to argue that focusing upon the ‘mundane reveries of childhood’ provides fruitful insights into childhood geographies and “a child’s sense of self-in-the-world.”

The mapping exercise revealed landscapes to be storied and memoried by children. The children represented places and drew connections between them through the stories of happenings in those places at different times. In contrast to micro-scale, storied nature-culture encounters, certain (paid for) ‘nature experiences’, such as farm park visits, though acknowledged by children, did not feature as experiences through which ecological awareness is nurtured. As such, these kinds of activities may not offer the same memorable nature-culture encounters as those which, though inconsequentially occurring within

mundane everyday contexts, appear more meaningfully orientated towards nonhumans. Slower, individually experienced, more reflexive space-time encounters emerge from the study as capable of revealing the human-nonhuman connections that Latour²³ argues are central to tackling present ecological crisis.

In this paper, we suggest therefore that the notion of “slow ecopedagogy” can be extended to ecological encounters within everyday life. Living, playing and roaming in a rural place may therefore be considered a “slow eco-pedagogy”²⁴, which through constant, mundane (in the sense of everyday, lived experiences, which may appear unremarkable) nature-culture interaction, individuals become conscious of their inter-relativity with the nonhuman world. Interacting with local ecological spaces at an early age is significant to the acquisition of “environmental knowing”, as well as a “sense of place”²⁵. Furthermore, Matthews²⁶ argued that “children show higher levels of environmental skill when dealing with familiar places”. As such, proximity to green or blue spaces may enable processes of ecological conscientisation. Here, our notion of ecological conscientisation is informed by the Freirean²⁷ notion of conscientisation relating to raising awareness of lived experiences of social injustices to address inequalities. The process thus involves individuals becoming conscious everyday ecological landscapes, together with local environmental issues and their global connections.

Within this paper we argue that *by-standing memories* of childhood play a key role in the acquisition of such ecological knowledge. Central to our notion of *by-standing memories* is a child-centred approach that recognises that “memories are often invested with emotional and moral meanings”²⁸. Ecological awareness is therefore less likely to be nurtured through ‘nature experiences’ given that their contrived character may work against emotional encounters and thus the laying down of memories. In contrast, *by-standing memories* emerge through ‘slow interactions’ with the landscape, as per slow ecopedagogy²⁹ and are recalled from significant, repeated, local events. *By-standing memories* can be defined by their partial detachment from adult-like responsibilities and moral judgements. Such a conceptualisation of childhood reverie is not to re-construct children as ‘passive bystanders’³⁰, indeed, many of these *by-standing memories* re-tell an eagerness for children to acquire knowledge about their ecological surroundings³¹.

Through its exploration of the phenomenological lived experiences of upbringings within a National Park landscape, attending to the emotions, subjectivities, identities and memories of childhood, this study progresses contemporary debates within both children’s geography and cultural geography. Children emerge as “caught up in whole arrays of activities and practices”, through which their “conscious reflections, thoughts and intentions emerge from and move with the background ‘hum’ of on-going activity”³². Knowledge, as Ingold³³ puts it, grows as individuals travel along paths. Within this study, ecological consciousness appears to emerge through *by-standing memories* of chance events that occur along such serendipitous paths. Our study highlights the environmental affordances of porches, barns and edgeland spaces and temporal events occurring within a world that children come to know through enactment within it, rather than through cognitive processing alone. The children’s “knowledge is not classificatory but storied, not totalising and synoptic but open ended and exploratory”³⁴. Here we explore the stories children share through creative mapping, making sense of their practical actions. In doing so, the paper highlights

the benefits of returning to humanistic geographies reassertion of a focus upon lived-experience and attentiveness to emotional responses to encounters that new-humanism advocates³⁵. It seeks to increase the visibility of the connection between the human-non-human in a way that does not result in writing with an “anaemic quality”³⁶, but rather colours such accounts with stories of embodied encounter.

By-standing memories: Incidental events, emotional encounters and early ecological conscientisation

Geographers have argued for greater attention to *memories* of individuals and families as they are likely to profoundly shape practices³⁷. Socially constructed time and space provide a “reference system by means of which we locate ourselves (or define our “situatedness” and “positionality”)”³⁸. Memory is central to this process of situating ourselves. The geographies of memory emerge from physical landscape experiences³⁹, whilst individual identities are also “tangled up in our relations with the things we surround ourselves with”⁴⁰. The “topography of childhood”⁴¹ therefore hosts powerful spatial memories, as childhood emotions become “imprinted onto whatever landscape they are acted out in”⁴². Furthermore, children arguably experience an openness to the world, which is vivid and unaffected by responsibilities and habitual behaviours that saturate the adult world, though to varying degrees. Tuan argues that children “see the landscape as a segment of artfully arranged reality ‘out there’, but [they] also knows it as an enveloping penetrating presence, a force”, implying that an experience of inter-relativity may be possible in childhood.

Such understandings can be acknowledged through attending to by-standing memories formed through childhood embodied experience of non-human interaction. These past experiences contribute to a present wherein they are “imprinted with new meaning through social acts of remembering”⁴³. Occupations and habits in early life affect what is attended to in later life, influencing as Dewsbury⁴⁴ puts it, “who we are and who we will become”. Specific geographies of memory thus go on to have resonance in other spaces and times. Childhood encounters in space-times of upbringing are therefore crucial to their emotional experiences of being in the world, and a sense of nature-culture as inter-related may emerge through children’s experiential encounters. The space-time of childhood may thus be a crucial stage for nurturing ecological consciousness, not only because nurturing such connections may lead to a greater sensitisation to, and affinity towards, ecological surrounds in later life, but also because the space-times of childhood are unique to that life stage⁴⁵.

As the complexities of environmental change and the extent of its implications become clearer, a new post-critical environmental education⁴⁶ is emerging, which draws upon critical pedagogy to acknowledge the necessity to go beyond ridged notions of environmental education. These novel understandings of environmental learning stress the importance of a slow-eco-pedagogy⁴⁷, that enables dwelling within place, in an unstructured, self-directed way. Post-critical environmental education thus moves beyond the deficit model⁴⁸ and recognises children as wayfarers – non-static beings, moving through a “storied landscape”, navigated and understood as a movement between places, real and imagined, commercial and natural⁴⁹. Their experiences can thus be characterised more by travel “along paths” than by a

static dwelling⁵⁰. Considering such a characterisation has implications for how we regard childhood experiences of place. Early places of dwelling can be conceptualised as places that children will “trail beyond” through their lived experiences. Yet knowledge gained through children’s early dwelling places may be central to their understandings and relationships with other places journeyed through in their futures. It is increasingly necessary therefore to appreciate not only connections between nature/culture, but also between children’s home/common worlds, and their present/future space-times.

Almost two-decades ago, Matthews et al.⁵¹ argue that children’s immediate surroundings of their homes and their schools are important contexts for environmental education and that: “Children develop their awareness of places about them through repeated contact” arguing that by “engaging their interests via their own everyday experiences children’s true environmental capabilities are much more likely to be revealed and enhanced”. Children are inclined to engage experientially with their surroundings, seeking out that which is novel and curious⁵², whilst “flickers and hints” of childhood experience “stay within us and can be accessed”⁵³ by adults. As Bondi et al⁵⁴ state, the “traces of past geographies” that we carry are emotionally charged and thus our present day emotional experiences involve a re-encountering of those of the past. Ecological childhood experiences may lead to ecological sensitisation in later life⁵⁵, due to the ‘affective ties’ that are created between child and landscape⁵⁶. Consequentially, as well as attending to structured ways of ecological knowing, such as environmental education and outdoor learning, environmental educators might also pay attention to what Bachelard⁵⁷ calls “the reveries of childhood”, thought of as “an episode of memory when we somehow travel back”⁵⁸ to experience emotionally charged landscapes. The memories of geographies of childhood, formed in and of place, may lead to ecological conscientisation in later life when individuals may “call up memories”, or walk in “memories shadow” and thus open “up to reverie” (Lorimer, 2014). We argue here that such reverie could play a formative role in the future lives of those who recall their *by-standing memories* of ecological encounter.

Gaining insights into childhood experiences of the park

To explore the influence of national park upbringings on children’s ecological conscientisation, this research study aimed to provide interpretive insights into how a group of 14 four to 11-year-olds, living within a national park, interacted with and made sense of their ecological surroundings and the factors that mediate such experiences. The study utilised a four-day ‘summer club’ for children of BBNP staff. The study was mindful of “the connections between childhood, spectacle, and the unfolding lives of children in particular histories and geographies”⁵⁹. Though it might be assumed that children living within the boundaries of a national park experience few physical barriers to interaction with those surroundings, and that as children of national park employees, opportunities for intergenerational learning may readily present themselves, it is important to acknowledge that there might be personal, social, economic, cultural and environmental barriers. Indeed, Matthews et al⁶⁰ revealed that “children of all ages within rural villages do not roam as widely as their counterparts from edge-of-town estates... their free range shows little

distinction from urban children”. The reasons for this include parental safety concerns, poor public transport, lack of access to privately owned land, the influence of communication technology, as well as the appeal of more urban ways of life and pastimes that might be assimilated within the rural.

Creative map making

Matthews⁶¹ argued that from the age of six and seven, children are “able to trace complex routes and show a good appreciation of place relationships in the area around their homes... some children have already acquired an Euclidean grasp of space, revealing the beginnings of ‘abstract spatial thought’”. However, in conducting this activity, we were not concerned with accuracy, nor assessing the children’s ability to make maps, rather mapping was a jumping off point for verbal accounts that enabled children to express thoughts and feelings about the places they live and travel to within the national park. We were interested in the stories that children told, enabling us to determine what made living in the national park meaningful for them.

Creative map making is a child-centred methodology that “allows children to demonstrate their microscale ecological knowledge and nature interactions”⁶². As well as acknowledging the benefits of this method, we also acknowledge the need to treat findings as “indicative rather than declarative”⁶³ of children’s relationships with their surroundings. Nevertheless, by placing focus upon the voices of children, it is possible to move away from what Freeman et al⁶⁴ call “adultism assumptions” and instead recognise “children’s agency in constructing more immediate, less romanticised but still meaningful nature interactions”.

The creative mapping activity encouraged children to draw, write and make plasticine models to build a map of BBNP with the aim of furnishing: “a new key to unlock certain ‘internal’ mysteries of children’s worlds (and geographies)”⁶⁵. Without directing the children’s attention towards any specific feature of their ecological surroundings, children filled in outline maps with memories of events at home, in schools and in the wider park. Creative mapping illuminated some of what we cannot know, but might remember about childhood, but also the *memories* of children, enabling creative conversations⁶⁶ with children. Children were presented with a map of the Park, which included names of towns and major geographical markers, for example, the *Black Mountains*. The children were encouraged to think about four questions and to answer these questions through creative expression. They were asked to note the locations of the place they thought of as their home; the route that they had travelled to reach *Craig-Y-Nos* country park (the summer club base) and places that they had visited in the park. Finally, children located their “favourite” place within the entire National Park.

The children had access to pens, pencils, plasticine, and a range of other ‘props’ including pipe cleaners. Children located these places/routes on the map (figure one) and were encouraged to provide an uninhibited representation of them. To ensure children were aware that this was not a ‘test’, it was stressed that the representations created did not need to be accurate in terms of proximity, nor scale, nor did they need to create just one answer, for

example, they might want to record more than one home or favourite place. Some made cars and buses, while others made their homes and farm buildings out of plasticine.



Figure 1: A participant starting their map of BBNP

The mapping activity occurred twice during the summer club. On the first occasion, six children participate, while on the second eight children participated. Two maps were used per session and each researcher guided the activity with one group of three or four students. Children divided themselves into two ‘older’ and ‘younger’ groups. This was useful given that the different development levels of children required alternate explanations of the task. The activity also needed to be malleable, for example, during one exercise, a five-year-old child struggled to identify where he lived. He told us its name, though we did not recognise it, which meant turning the focus of the activity more towards creating a representation that appealed to him. He chooses to make a boat, a sailor and a bridge for him to go underneath. Most children could engage with the task, identifying their homes, favourite places and their routes to the summer club, while many elaborated to discuss other routes.

The activity lasted an average of 40 minutes and was documented through photographing the children’s creations and evolving maps. Audio recordings were made of children’s conversations with peers, teachers and the researchers. A combined narrative and visual analytic⁶⁷ approach was taken to making sense of the maps and audio recordings. Audio recordings were then transcribed and a narrative analysis was conducted through which it we explored the stories children told of ecological encounters while creating representations.

Children’s mapped spaces and activities: An overview

All children had some familiarity with the outline map of the national park, though as would be expected due to the age-range, understandings of locality and scale varied. Children of differing ages also expressed themselves in different ways. The older children made lists of places that were important to them, while younger children gravitated towards using plasticine, pipe cleaners and stickers to create models of their homes and other features, including boats, bees and supermarkets. The children orientate themselves around non-descript markers depicted on the map, including perceived woodlands and lakes. Figure two graphically represents the visualisations and associated discussions that the mapping activity generated. Most free-roaming occurred near to homes and within nearby woodlands or fields, whereas (paid for) structured nature encounters, including farm-parks and riding school visits, tended to nurture contrived, competitive, predictable interactions, such as horse-riding. Such planned encounters, though significant for some children, as evidenced by their creation of plasticine horse jumps and horse-jumping arena’s, did not incite the re-telling of stories about nature-culture inter-relativity that the seemingly mundane experiences of home-based encounters stimulated. While children mentioned a local farm park, they did not elaborate upon their encounters in such places. It may be the case then that contrived ‘nature encounters’, leave less room for ecological conscientisation⁶⁸, or by-standing, storied memories, and therefore offer fewer opportunities for ‘slow ecopedagogy’. While many children noted the presence of iconic landscape features, such as Llangorse Lake and the Black Mountains, few stories were told concerning these ecological features.

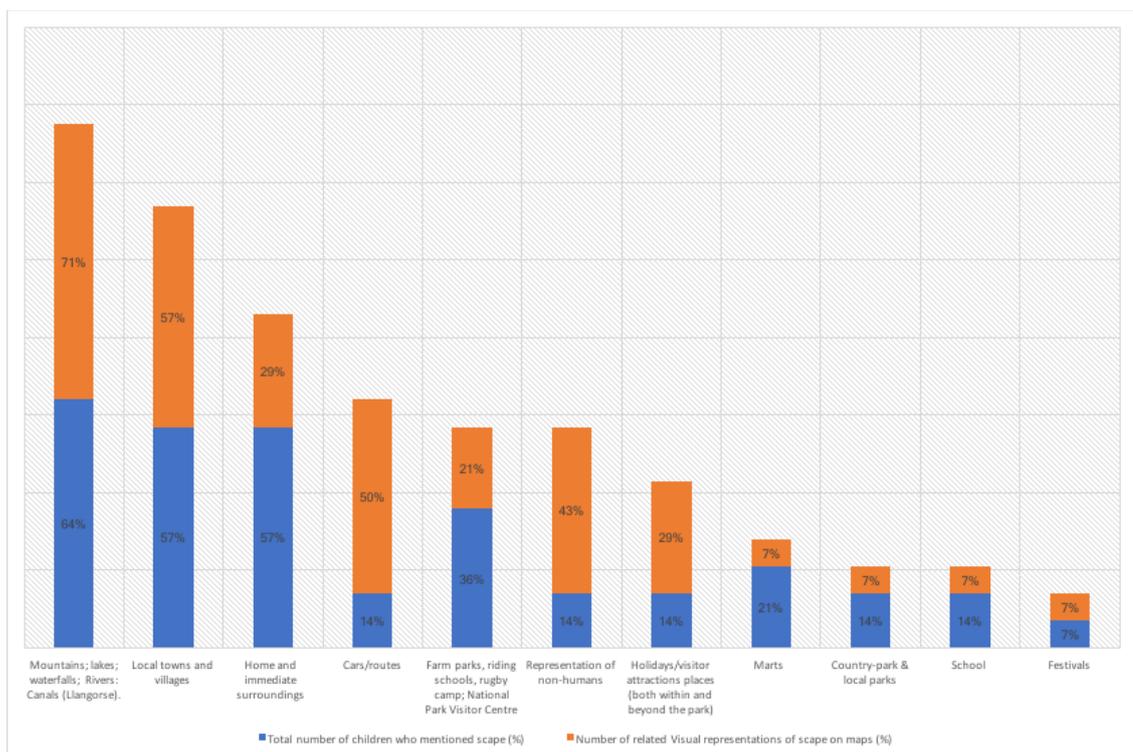


FIGURE 2: Summary of children’s mapped spaces and activities.

Re-telling's of by-standing memories arose rarely when children mapped their time-space encounters beyond the immediacy of their locality. Thus, while discussion of opportunities for children to roam freely in rural/natural environments have typically rendered the countryside and rurality as broad space-times, or noted the distances that children are permitted to roam⁶⁹, these finding suggest the significance of inter-relativity that occurs in the micro-spaces of and around the home. Planned 'outdoor' encounters, alongside wider-scaled interactions, appeared to be less productive of the kinds of 'mundane reveries of childhood'⁷⁰ associated with by-standing memories of nature-culture interactions which emerged from curious observations within home surroundings. To elaborate this point, within the following sections, the experiences of four children are explored in-depth.

"I know every tree": the gravitas of first homes

For most of the younger children, locating 'home' emerged as the single most important feature, with many spending considerable time making models of their homes and discussing how near/far their homes were to their peers. The first group of children used plasticine to create their homes (two lived in working farms, the other on a non-working farm). Figure three demonstrates that three children, who made plasticine models of their homes, also denoted these spaces as their favourite place. Children noted daily rhythms of rural life through the lens of home, making plasticine hay bales, tractors and barns.

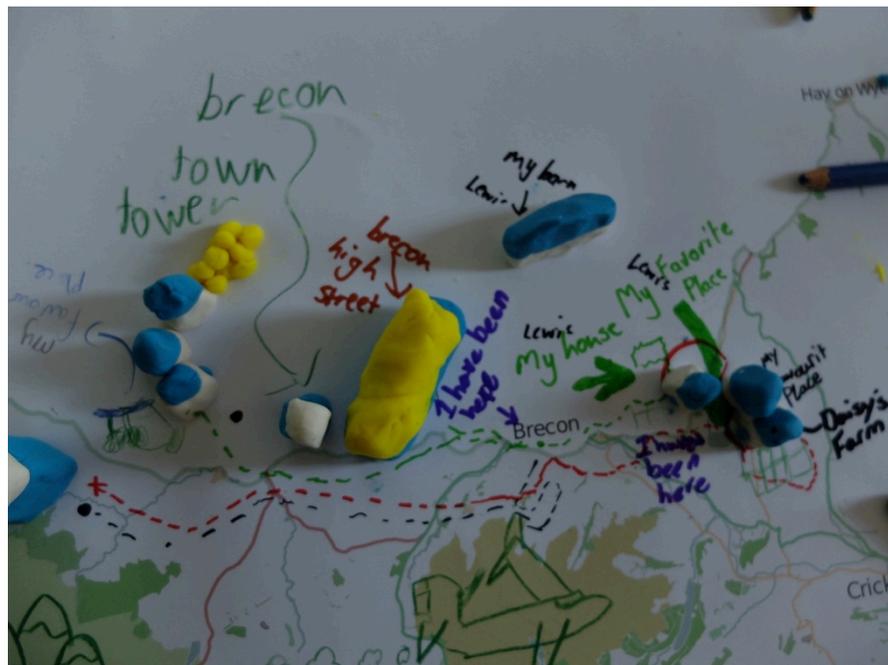


Figure 3: Homes and favourite places – Bella's farm is to the right.

When describing their favourite place, two children described a specific field on their (active) farms or a woodland. For Bella, her home and the woodland that surrounds it, are a significant site within the National Park. At the beginning of the session, she asked the

researcher about a tiny marker on the map. The researcher states she thinks it is a wood, to which Bella replies: *“Oh that’s my woods then”*. She orientates herself, not by her house, but by this woodland, making a model of her home and adjoining barn, but she also plots the woodland surrounding her home using a red-pencil to depict the boundary. Later, when considering which might be her favourite place, she returns to this theme, stating that her favourite place is her home, not because of the house itself, but because of its surroundings as she puts it:

“Because there’s lots of interesting things to explore. I’ve been in the woods so many times that I know every tree and could tell you what the tree is, I can tell if a tree’s been cut down (giggles).”

For Bella, ‘home’ is not only a house, but rather the land upon which she lives. Bella describes a particular space-time of her childhood memory. Repeated visits, ‘*so many times*’, leads to significant remembering ‘*I know every tree*’, and to ecological awareness, ‘*if a tree’s been cut down*’. This repeated walking-in-the-woods, the knowing and remembering of ‘*every tree*’, could constitute a “slow eco-pedagogy”⁷¹, that is incidentally equipping Bella with an interest in ecological features as well as the skills to identify them, often considered a ‘lost skill’ within contemporary society⁷².

The home emerges in this extract not as a mundane space of domesticity, but as a space that offers “enchanting encounters with the social/natural world”, which Bhatti et al.⁷³ argue “emerges through people’s daily activities”. Accessing ecological surroundings in close proximity to one’s home appears to nurture a sense of knowing one’s place and having pride in that place⁷⁴, as well as a sense of care for that place, a guardian capable of observing ‘*if a tree’s been cut down*’. Such encounters may be significant for ecological futures, given that they may lead to the formations of ecological memories that may have lifelong implications⁷⁵. Significantly, however, our attention here is not on memories of childhood as retold by adults⁷⁶, but children’s own memories of place, which are re-told through repeated returns to place, affecting relationships of remembering. Bella’s link between her memory of place to her ecological consciousness (of ‘*what the tree is*’ and ‘*I can tell if a tree’s been cut down*’) is our point of departure between conventional conceptualisations of ecological conscientisation and slow eco-pedagogy, which assume that childhood is where ecological consciousness is formed, and adulthood is where it is remembered and acted upon, to instead consider how children describe their own ecological memories as re-storied, in space-times of childhood.

Ecological conscientisations as by-standing memories: repetitive, transgressive encounters

The children living within the park also expressed an awareness of themselves alongside the nonhuman world. Several children noted significant ecological events that brought conservation issues into their field of being. In the below extract, Bella describes how she had seen bats in her barn the previous evening, linking this to their protected status:

“I saw loads of bats last night. They keep flying, in and out and in, about ten...In our barn... But we can’t convert that barn [pointing to one of her plasticine models], because our house is really small, because we had a bat survey and they saw two bats flying through, and that was it.... It’s probably because my Dad had a fall out with the women [bat surveyor], because she was on the roof of the shed and he said: ‘no-one’s been out there, because it’s too dangerous’”.

Bella’s encounter with bats, which is ‘mundane’ in one sense (the story built around a bat inspection of a barn), is made significant for Bella by the ‘event’ of her father falling-out with the bat inspector, which Bella feels resulted in them not being able to convert the barn. The bats become memorable both because of their interesting nonhuman properties (flying in and out) but also because of the significance of the (somewhat mundane) family encounter of bat inspection and non-conversion of a barn.

Bella’s bat encounter might be seen to constitute a form of “slow eco-pedagogy”, emerging as it does from sustained observations from her dwelling place. Yet unlike in Payne’s⁷⁷ example of slow eco-pedagogy, where a group of university students are taken to an Australian national park by eco-aware adult educators to experience and interact with their ecological surroundings, without the influences of time-keeping and mobile devices, in Bella’s case, there does not appear to be intervening eco-aware parents/adults shaping her experience. Within Payne’s⁷⁸ original case, “slow eco-pedagogy” is predicated by and through the direction the eco-aware adult educators, who stress the significance of environmental encounters and offer ‘positive reinforcement’, albeit through non-interventionist means, such as encouraging student reflexivity. However, in the case presented here, Bella emerges as a curious onlooker, or by-stander of, what is for her a novel encounter, made notable because of the negative outcome of her father being angry with a bat inspector. This draws Bella’s attention to bats as notable creatures, without being personally encumbered by adult concerns⁷⁹, which might result in a ‘negative’ memory of this event being shaped around the barn not being converted because of the existence of (nonhuman, transgressive) bats. There is a certain ‘reverie’⁸⁰ to Bella’s encounters with the bats that she watches *‘flying in and out’* of her barns every evening. This ‘reverie’, we argue, is constituted and made meaningful through two significant facets of Bella’s description. The first is that this is Bella’s *memory*, retold as a story of a particular space-time of childhood. Secondly, this storied or narrative memory⁸¹ of landscape is framed by Bella’s *by-standing* relationship to the mundane transgressive encounters between nonhumans and the adult world.

Bat barn-nesting is a current conservation concern, enshrined in institutions of ‘bat inspecting’, and this memory is one vector through which this ‘conservation issue’ is recounted. Bella’s ‘reverie’ emerges as partially intertwined with the adult world, as she perceptively observes the bat surveying. This somewhat supports Katz’s⁸² assertion that othering children as a ‘clean slate’ risks discounting nature-culture connections observed through seemingly mundane everyday encounters, where children may be perceived as passive bystanders. Yet Bella’s ‘reverie’ in storying the encounter from memory is in part constructed through the *by-standing* observation of adult concerns. Bella’s discussion did not suggest disappointment with the outcome of the bat inspection, she appears equally intrigued

by the bats and the adult quarrelling. She is not a ‘passive’ bystander, but her non-adult-guided position as observer of bats and bat-inspection is productive of reverie which is partially disconnected from adult responsibility and concerns. Such instances, as recalled by children, may be crucial to the process of ecological conscientisation⁸³, which are, critically, framed by *by-standing memories* that are particular to children.

This nature/culture interrelationship is also constructed through micro-encounter, rather than one which refers to wider-scalar landscapes of the National Park. Freire⁸⁴ argues that our childhood backyards are places in which we learn of inter-relativity within the world, and the scale of the immediate, home surroundings emerge as significant within this study. This sense of nature-culture articulated here is not from careful ‘nurturing’ – but one which emerges from a particular ‘event’. These ‘events’ may stretch beyond the single encounter through repetition. Bella has been to the woods ‘*so many times*’, she sees bats that ‘*keep flying, in and out and in*’. These are not strictly ‘slow interactions’ with landscape (as per ‘slow eco-pedagogy’), they are repeated, significant space-time events of childhood that happen within and near the home, which make particular micro-spaces meaningful for children.

Another child, Kira, described herself as being fond of animals. When addressing the question: “what is your favourite place”, she did not name a specific place, but stated: “*I like the minibeast area...because it’s relaxing and you can get all different animals roaming around... Butterflies, frogs, ants*”. Unlike many other children, Kira did not begin her mapping activity by making her home out of plasticine, she made a bee and a bunny rabbit instead. When asked why she was fond of bees a conversation between herself, another child, Steffan, and a researcher ensued:

- Kira:* *They [bees] used to live in my front door.*
Researcher: *Did they? Did they get taken away, is that why they’re not there anymore?*
Kira: *No, they moved.*
Researcher: *Oh, I see. That’s good.*
Steffan: *They moved hutch because they probably didn’t like it there when all the flowers had been pollened.*
Kira: *Pollenated.*
Steffan: *Don’t correct me. It’s not nice being corrected all the time.*

Kira chooses to focus the narrative of the bees in the porch, while holding her plasticine bee, on their transgression into and out of her home. Alike to Bella’s bats in the barn, Kira’s encounter with bees is an opportunity for her to become familiar with these creatures and learn about their habits, through curious observation and repetition of encounter. Prior to this discussion, Kira mentions the trickiness of this human-nonhuman encounter, which can result in harm to humans, though “*only if the bees are angry*”. Both Bella and Kira’s excerpts include elements of notable ‘transgressions’ of nonhumans into the home environment. Akin to the bats in the barn, bees living in someone’s porch may not be welcome creatures. Yet, unlike bats, bees are not protected through conservation legislation

and thus it is presumable that the bees may have been ‘moved on’, although Kira does not believe this is the case, stating instead that the bees have “*moved*” of their own accord.

Kira’s recollection of bee encounters come from *memory*, past encounters between humans and nonhumans, and also exhibit facets of *by-standing*, which do not imply moral judgement about the problems of bee-human encounters, nor culpability for the ‘moving on’ of the bees. Instead, in the re-telling of this memory, Kira is a curious observer, not entirely but somewhat detached, not overtly judgemental, and therefore stories a by-standing memory of ecological encounter which is likely different to the same story as told by an adult. Equally important in this re-telling is Steffan’s interjection. In building a narrative explanation to the bee movement, which is not rejected by Kira (instead using the opportunity to demonstrate her knowledge of pollination), Steffan contributes to the re-telling of the encounter through providing a possible bee-motive for moving on. The storying of eco-encounters is therefore not done by Kira alone. In the re-telling of by-standing memories by multiple children, the temporal experiences of ecological learning go beyond the space-time of the event itself. Whilst encountering the bees in the porch may pass as an instance of ‘slow eco-pedagogy’, the by-standing memory of the event is re-told in other spaces and re-storied by other children, stretching the notion of place-based slow eco-pedagogy to the other spaces where memories are re-storied and re-imagined. If slow-ecopedagogy has previously been conceptualised as a process of shaping ecological consciousness⁸⁵ through novel observations⁸⁶, where temporal and spatial experiences are increasingly indivisible⁸⁷, then such conceptualisations need to include stretching of space-time beyond the eventful encounter to include their re-telling and re-storying.

“Pen-y-fan, Mount Everest and Snowdon” : Imaginative re-storying of place

Following the initial plotting of their homes, the children’s plotting’s of place extended outwards, to the homes of others, or representing travel through the park to leave for holidays or visit nearby cities. For older children, though home was still a focus, there was a greater sense of ‘outwardlookingness’⁸⁸ within their maps. Relationships with other people in other places (grandparents, cousins, friends) defined the landscape to a greater extent. Figure four shows how older children made lists of places within the park and the things that could be found within those places, which included bees, festivals, Christmas trees, dad’s work and places of birth.



Figure 4: Listing places

For all children, regardless of age, representations of movements and mobility, which brought the extraordinary, as well as the mundane, into their everyday lives were present. For example, Lewis drew an army aeroplane “*‘cos there’s loads of aeroplane...[that]...fly over a mountain*” citing an exciting event, whilst other children noted more mundane events, citing ‘shopping’ as an enjoyable activity, and identifying significant places as their schools and the supermarket (one made a ‘Tesco’ sign).

Imagined distant places also featured. For example, thinking of mountains makes Steffan imagine an occasion when he scaled Mount Everest, and he plays with this notion in his somewhat amusing conversation with another child when he tells them: “*I have been up three [mountains]... Pen-y-fan, Mount Everest and Snowdon*”. When he is called-out concerning the probability of climbing Mount Everest due to the unlikelihood of this for a person of his age, he does not withdraw the claim, but restates that he has climbed both Pen-y-Fan and Snowdon and finishes his tall-tale by saying: “*Mount Everest is one of the dangerous mountain in the world.*”

Steffan’s journey up Everest is (most likely) an elaborate story, allowing him to amuse his peers. Yet, this combination of the imagined and real has been observed as a unique characteristic of childhood reverie and memory. Philo⁸⁹ argues that:

“Inspecting these reveries as a geographer, they reveal a hybrid geographical imagination full of real places—the family home, friends’ houses, the park with swings, the zoo—supplemented by numerous more-or-less made-up places such as witches’ houses, islands and (in other versions) woods with many trees”.

In Steffan’s case the landscape of the national park combines with imaginings of far off lands, probably witnessed through global communication technologies. Steffan is a child who uses YouTube frequently and notes that “*the Gaming Hub*”, represented on the map as a

videogame console controller, in the town of Brecon is his favourite place because it is: *“a place where you can buy video games and if you book in for like parties and stuff you can go downstairs and play video games.”* Reality might therefore unsurprisingly blur with fiction within his thinking. The process of creative mapping encourages playful engagement with ideas of place, which enable attunement “to the neglected ‘stuff’ of childhood worlds, ones energised by absent-minded reveries that happily fuse the real and the imagined, often displaying deliciously chaotic geographical imaginations”⁹⁰. In Steffan’s mapping, the storying of wider landscapes muddles the spectacular, fictional and imaginary with the mundane, everyday and regular, an imagined scaling of Everest with a visit to the Gaming Hub. His map is a representation of time and space together⁹¹, as places and moments from memory are re-presented on the same drawing, but equally it is a space in which the real and imagined are re-storied as childhood memory.

Steffan’s case shows a capacity for imaginative interactions. These imaginative storying’s of landscape also had folded within them components of ‘by-standing’. Steffan’s scaling of Mount Everest, which slips between a telling of walking up Pen-y-Fan and Snowdon, reveals his detachment from the typically adult necessity to ground the re-telling of memories in the reality of events (although, adults too may be prone to exaggerate, but within the plausible bounds of other’s imaginaries). Just as the children were not overly-concerned with attempts at accuracy in their maps, so too does the slippage between the mundane-real and spectacular-imaginary of nature-culture encounters appear without concern in the re-telling of childhood memories, by-standing on adult concerns for memory-as-reality.

Conclusions

The children within this study provided representations of their storied, by-standing memories of living in the national park through creative mapping and storytelling. These memories, revealing as they are of the particularities of childhood reveries, are important for re-framing and re-placing notions of ecological conscientisation and ‘slow ecopedagogy’.

The home, rather than a place of mundane domesticity, as opposed to broader conceptualisations of children free-roaming in rural landscapes⁹², emerged as a space more aligned with the concept of ‘slow ecopedagogy’⁹³. This supports the claim that (past) rural childhoods might not be the predictor of ecological consciousness that it has been somewhat romantically assumed they were⁹⁴. Rather, ecological issues come to the fore for children when experienced in their homes and everyday life. We have argued that, rather than ecological conscientisation being something that is gifted by adults in childhood through ecological encounters, and remembered and acted upon in adulthood, such consciousness is the product of memories formed by, and re-told by, children themselves, with consequences for the places in which slow ecopedagogy happens.

As Bondi et al⁹⁵ state, “embodied emotions are intricately connected to specific sites and contexts”, highlighting the necessity to explore emotions as socio-spatial, rather than individual. Our focus upon by-standing memories reveals the importance of the formation of such memories through emotional, embodied experiences within children’s immediate surroundings. Attending to emotional by-standing memories, emplaced within home and favourite environments reveals how such memories are used in the present by children to convey and explore ecological connections and knowledge. Such by-standing memories

enable, for example, Bella to feel a sense of pride through her capacity to remember individual trees and thus identify as steward to her woodland, while Steffan attempts to construct his identity as an intrepid explorer, sharing memories of climbing mountains, both real and imagined. As well as these present-day effects, by-standing memories have the potential to lead to future ecological conscientisation, for as Bondi et al⁹⁶ state:

“we are not, and cannot be, reflexively aware of, or in control of, how emotions are mapped onto us at the moments of our experience, or of how they are retained and retrieved (or not) through differing forms of memory...emotions experienced as if in the present moment are never free of the past but are instead always re-encountered”.

The temporal effects of by-standing memories, can thus be conceptualised through the possibilities they offer for present day ecological conscientisation and enhanced future understandings. Though children within this study are positioned as by-standing on adult concerns and sometimes play cameo-roles to the main actions of adults, their by-standing memories may shape their lives in a myriad of unknown ways.

As the experiences of bats and bees, narrated above by Bella, Kira and Steffan, illustrate, certain ecological encounters that fall within the realms of slow ecopedagogy are not necessarily mediated through educational interventions or adult-organised activities. In re-telling and re-storying their memories through creative mapping, these children instead are curious observers⁹⁷, or by-standers to nonhuman-human encounters. It is the re-telling, re-storying, and re-imagining of by-standing memories that surfaces children’s ecological consciousness, and indeed re-memorises and re-replaces it in the telling. We have argued therefore that notions of place-based learning and slow ecopedagogy should be stretched beyond the immediate space-time ecological encounter, to include the spaces in which they are re-imagined.

Yet, how these memories are formed and re-told is still likely to be crucial for how children go on to engage with their environments during later lives⁹⁸. Providing time for such acts of seemingly inconsequential ‘reverie’⁹⁹, may thus be a crucial dimension of ecological conscientisation¹⁰⁰. The examples presented here have elaborated on how this ‘reverie’ is lived, recalled, re-storied and talked about by children, as memory. There is something particular about how these reveries are re-presented as memories which offer glimmers of how children understand human-nonhuman encounters differently from adults, combining the mundane and the novel, the likely and the imagined, to re-imagine happenstance encounters with transgressive nonhumans without being encumbered with adult responsibilities for dealing with the consequences of their transgression.

Ecological encounters are not dependent solely upon freedom to roam in a large, unconfined ‘nature’. What emerges as significant is time for the witnessing of events that bring the human and nonhuman world into the same space. As such, this offers some hope in the face of the ‘child panic’¹⁰¹ concerning nature-culture connectivity. Using creative methods unveils the ways in which children build their ecological consciousness through their own ‘by-standing’ observations, likely to be missed when focus is placed upon the provision of formalised environmental learning. We find that some organised ‘nature encounters’ do not appear to stimulate detailed stories of nature-culture connections, perhaps because such encounters are structured around predictable, competitive doings. Such

encounters seem further from concepts of slow ecopedagogy than the reveries exposed through by-standing memories composed from more local experiences.

However, our intention here is not to entirely dismiss the various formal and informal ways in which children's interactions with nature-culture are encouraged by educators. Were localised encounters to be acknowledged, it might be possible to create opportunity spaces for by-standing nature-culture interactions, as part of environmental learning activities, through leaving space for 'fluid time' within programmes which might encourage childhood reverie. More directed approaches to slow ecopedagogy could draw children's attention to proximate ecological features. Citizen science¹⁰² methodologies, for example, encourage children to make scientific observations of bats, bees and trees, or observations of the "microsphere" of concrete walls within cities¹⁰³. Citizen science may encourage reverie-like engagement within an urban context¹⁰⁴, providing opportunities for "enchancing encounters"¹⁰⁵ with ecology.

Matthews¹⁰⁶ and Jones¹⁰⁷ draw our attention to the romanticisation of rural childhoods and the sometimes 'discontented' nature of rural upbringings. This paper supports the assertion that edgelands and places close-to-home are important for ecological conscientisation for both urban and rural children. Recognising this, and the potential of by-standing memories, lends further support for recent contestations of Nature Deficit Disorder (NDD) discourses¹⁰⁸. Opportunities to recognise nature-culture connections within a variety of local contexts, rural and urban, emerge as especially significant given disparities in access to different levels of biodiversity available in the gardens and yards within which children spend their time¹⁰⁹.

This study also highlights the dangers of romanticising the opportunities for "wild" encounters that children living within national parks might have. The 'place' of BBNP emerges from the study "as the locus of "imaginaries," as "institutionalizations", as configurations of "social relations", as "material practices" ... and as elements in "discourse""¹¹⁰. Within the locus of the BBNP all forms of human encounter both ecological and commercial are present. Yet, through "repeated encounters and complex associations"¹¹¹ the park is also being constantly imagined and re-imagined by the children who live within it. The creative re-storying and expression of memories may be of equal significance to the formation of an ecological consciousness. Freeman et al¹¹² contest Nature Deficit Disorder, which holds that children are 'denatured'. Our study reveals that children's immediate surroundings offer opportunities for microscale nature-culture encounters. The "nature connectedness" research upon which NDD is based focuses upon the macro-scale, which is "more adult-orientated"¹¹³. The discourse of NDD thus appears to emerge from a perspective which ignores the connections made by children in their everyday lifeworlds. Acknowledging the significance of the by-standing memories formed within such lifeworlds, seemingly regardless of context, emerges from this study as a cornerstone of ecological conscientisation.

¹ B.Latour, *We Have Never Been Modern* (Cambridge, MA: Harvard University Press, 1993).

² D.Harvey, *Justice, Nature, and the Geography of Difference* (Cambridge, MA: Blackwell, 1996); T.Ingold, *Being Alive: Essays on Movement, Knowledge and Description* (London: Taylor & Francis, 2011); T.R.Schatzki, *The Timespace of Human Activity: On Performance, Society, and History as Indeterminate Teleological Events* (London: Lexington Books, 2010);

Y.F.Tuan, *Topophilia: A Study of Environmental Perceptions, Attitudes, and Values* (New York: Columbia University Press, 1976).

³ P.H.Kahn and P.H.Hasbach, *Ecopsychology: Science, totems, and the Technological Species* (Cambridge, MA: MIT Press, 2012), pp. 23-53.

⁴ B.Latour, 'Agency at the Time of the Anthropocene', *New Literary History*, 45, 2014, pp. 1-18.

⁵ D.J.Haraway, *When Species meet* (Minneapolis: University of Minnesota Press, 2008); B.Hooks, *Belonging: A Culture of Place* (New York: Routledge, 2009).

⁶ S.Moss, *Natural Childhood* (The National Trust: Park Lane Press, 2012); RSPB *Connecting with Nature: Finding out how Connected to Nature the UK's Children are* (2013), Available from: https://www.rspb.org.uk/Images/connecting-with-nature_tcm9-354603.pdf (accessed: 23/08/2017).

⁷ Tuan, *Topophilia*.

⁸ B.Mergen, 'Review Essay: Children and Nature in History', *Environmental History*, 8, 2003, pp. 643-669; R.M.Vanderbeck and C.M.Dunkley, 'Young People's Narratives of Rural-Urban Difference', *Children's Geographies* 1, 2003, pp. 241-259.

⁹ D.Goode, *Nature in Towns and Cities* (London: Harper Collins, 2014).

¹⁰ P.Farley and M.S.Roberts, *Edgelands: Journeys into England's true Wilderness* (London: Random House, 2012).

¹¹ L.Chawla, 'Significant Life Experiences Revisited: A Review of Research on Sources of Environmental Sensitivity', *The Journal of Environmental Education*, 29, 1998, pp. 11-21.

¹² C.Freeman, A.Stein, K.Hand and Y.van Heezik, 'City children's nature knowledge and contact: It is not just about biodiversity provision', *Environment and Behaviour*, 2017, doi.org/10.1177/0013916517732108, p. 161.

¹³ M.H.Matthews, 'Young children's representations of the environment: a comparison of techniques' *Journal of Environmental Psychology*, 5(3), 1985, pp. 261-278; Freeman et al., 'Nature knowledge'.

¹⁴ P.G.Payne, 'Vagabonding slowly: Ecopedagogy, metaphors, figurations, and nomadic ethics' *Canadian Journal of Environmental Education*, 19, 2014, pp. 47-69.

¹⁵ Payne, 'Ecopedagogy'.

¹⁶ H.Lorimer 'The geographical field course as active archive', *Cultural Geographies*, 10(3), 2003, pp. 278-308, p. 301.

¹⁷ T.Ingold, 'The temporality of landscape', *World Archaeology*, 25, 1993, pp. 152-174.

¹⁸ Lorimer, 'Geographical field course', p. 282.

¹⁹ Philo, 'Reveries', p. 7.

²⁰ R.A.Dunkley, 'Space-time scapes as ecopedagogy', *The Journal of Environmental Education*, 49(2), 2018, pp. 117-112.

²¹ Philo, 'Reveries', p. 17.

²² Bachelard, *Poetics of Reverie*.

²³ Latour, 'Anthropocene'.

²⁴ Payne, 'Ecopedagogy'.

²⁵ Matthews, 'Children's representations'.

²⁶ Matthews, 'Children's representations', p. 238.

²⁷ Freire, *Pedagogy of the Oppressed*.

²⁸ H.M.Griffiths, 'Water under the bridge? Nature, memory and hydropolitics', *Cultural Geographies*, 21(2), 2014, pp. 449-474.

-
- ²⁹ Payne, 'Ecopedagogy'.
- ³⁰ Katz, 'Childhood'.
- ³¹ Tuan, *Topophilia*.
- ³² B.Anderson and P.Harrison (eds.) *Taking Place: Non-Representational Theories and Geography* (Farnham: Ashgate, 2010), p. 7.
- ³³ T.Ingold, 'Footprints through the weather-world: Walking, breathing, knowing', *Journal of the Royal Anthropological Institute*, 16(1), 2010, pp. 121-139.
- ³⁴ Ingold, 'Footprints', p. 135.
- ³⁵ K.Simonsen, 'In quest of a new humanism: Embodiment, experience and phenomenology as critical geography', *Progress in Human Geography*, 37(1), pp. 10-26.
- ³⁶ H.Lorimer, 'Herding memories of humans and animals', *Environment and Planning D: Society and Space*, 24, 2006, pp. 497-518.
- ³⁷ O.Jones, 'Geography, Memory and Non-Representational Geographies', *Geography Compass*, 10, 2011, pp. 875-885; C.McGeachan, '(Re)remembering and Narrating the Childhood City of R.D.Laing', *Cultural Geographies*, 20, 2012, pp. 269-284.
- ³⁸ Harvey, *Geography of Difference*, p. 208.
- ³⁹ Griffiths, 'Hydropolitics', p. 453.
- ⁴⁰ C.DeSilvey, 'Salvage memory: Constellating material histories on a hardscrabble homestead', *Cultural Geographies*, 14(3), 2007, pp.401-424, p. 405.
- ⁴¹ H.Lorimer, 'Homeland', *Cultural Geographies*, 21(4), 2014, pp.583-604.
- ⁴² O.Jones, 'An ecology of emotion, memory, self and landscape' in J.Davidson, L.Bondi and M.Smith (eds) *Emotional Geographies* (London: Routledge, 2005) pp. 205-218, p. 205.
- ⁴³ Lorimer, 'Geographical field course', p. 283.
- ⁴⁴ J.D.Dewsbury, 'Non-representational landscapes and the performative affective forces of habit: from 'Live' to 'Blank'', *Cultural Geographies*, 22(1), 2015, pp. 29-47, p. 24.
- ⁴⁵ Philo, 'Reveries'.
- ⁴⁶ P.G.Payne, 'Ecopedagogy and Radical Pedagogy: Post-critical Transgressions in Environmental and Geography Education', *The Journal of Environmental Education*, 48, 2017, pp. 130-138.
- ⁴⁷ Payne, 'Ecopedagogy'.
- ⁴⁸ B.Wynne, 'Knowledges in Context'. *Science, Technology & Human Values*, 16, 1991, pp. 111-21.
- ⁴⁹ T.Ingold, *Being alive: Essays on Movement, Knowledge and Description* (London: Taylor & Francis, 2011), p. 148.
- ⁵⁰ Ingold, *Being alive*, p.12.
- ⁵¹ Matthews et al. 'Growing-up', p.237-288.
- ⁵² T.Polito, 'Frederick Froebel's Illuminations on Kindergarten Children's Relatedness to Nature', *Education* 116, 1995, pp. 223-228.
- ⁵³ Philo, 'Reveries', p. 12.
- ⁵⁴ L.Bondi, J.Davidson and M.Smith 'Introduction: Geography's 'Emotional Turn'', in J.Davidson, L.Bondi and M.Smith (eds) *Emotional Geographies* (London: Routledge, 2005), p.12.
- ⁵⁵ Chawla, 'Environmental Sensitivity'; L.Chawla and D.F.Cushing, 'Education for Strategic Environmental Behavior', *Environmental Education Research*, 13, 2007, pp. 437-452.
- ⁵⁶ Tuan, *Topophilia*.

-
- ⁵⁷ G.Bachelard, *The Poetics of Reverie: Childhood, Language and the Cosmos* (Boston, MA: Beacon Press, 1969), cited in: Philo, 'Reveries'.
- ⁵⁸ Jones, 'Ecology of emotion', p. 208.
- ⁵⁹ Katz, 'Childhood', p. 9.
- ⁶⁰ Matthews et al., 'Growing-up', p. 147.
- ⁶¹ Matthews, 'Children's representations', p. 237.
- ⁶² C.Freeman, C.Ergler and T.Guiney, 'Planning with preschoolers: City mapping as a planning tool.' *Planning Practice & Research*, 32(3), 2017, pp. 297-318, p. 159.
- ⁶³ Freeman et al, 'Planning with preschoolers', p. 164.
- ⁶⁴ Freeman et al, 'Planning with preschoolers', p. 159.
- ⁶⁵ Philo, 'Reveries', p. 18.
- ⁶⁶ D.J.Clandinin and F.M.Connelly, *Narrative Inquiry: Experience and Story in Qualitative Research* (San-Francisco: Jossey-Bass, 2000).
- ⁶⁷ D.Mannay, *Visual, Narrative and Creative Research Methods: Application, Reflection and Ethics* (London: Routledge, 2015).
- ⁶⁸ Freire, *Pedagogy of the Oppressed*.
- ⁶⁹ O.Jones, M.Williams and C.Fleuriot, "'A New Sense of Place?' Mobile 'Wearable' Information and Communications Technology Devices and the Geographies of Urban Childhood', *Children's Geographies* 1, 2003, pp. 165-180; Mergen, 'Children and nature'.
- ⁷⁰ Philo, 'Reveries', p. 7.
- ⁷¹ Payne, 'Ecopedagogy'.
- ⁷² Maitland, *Gossip from the Forest*.
- ⁷³ M.Bhatti, A.Church, A.Claremont, and P.Stenner, "'I Love Being in the Garden': Enchanting Encounters in Everyday Life', *Social & Cultural Geography*, 10, 2009, pp. 61-76.
- ⁷⁴ P.Freire, *Pedagogy of the Heart* (London: Bloomsbury, 2016).
- ⁷⁵ Chawla, 'Environmental Sensitivity'; Tuan, *Topophilia*.
- ⁷⁶ G-W.Falah, 'Growing up in Rural Galilee, Palestine: Memories of Childhood Geographies', *Cultural Geographies*, 20, 2012, pp. 299-318; McGeachan, '(Re)remembering'.
- ⁷⁷ Payne, 'Ecopedagogy'.
- ⁷⁸ Payne, 'Ecopedagogy'.
- ⁷⁹ Tuan, *Topophilia*.
- ⁸⁰ Bachelard, *The Poetics of Reverie*.
- ⁸¹ McGeachan, '(Re)remembering'.
- ⁸² Katz, 'Childhood'.
- ⁸³ Freire, *Pedagogy of the Oppressed*.
- ⁸⁴ Freire, *Pedagogy of the Heart*.
- ⁸⁵ Freire, *Pedagogy of the Oppressed*.
- ⁸⁶ Polito, 'Frederick Froebel's'.
- ⁸⁷ Schatzki, *Timespace of Human Activity*.
- ⁸⁸ D.Massey, *For Space* (Newbury Park, CA: Sage, 2005);
- ⁸⁹ Philo, 'Reveries', p. 18.
- ⁹⁰ Philo, 'Reveries', p. 19.
- ⁹¹ Massey, *For Space*.

-
- ⁹² O.Jones, 'Tomboy Tales: The Rural, Nature and Gender of Childhood', *Gender, Place and Culture* 6, 1999, pp. 117-136.
- ⁹³ Payne, 'Ecopedagogy'.
- ⁹⁴ R.Giddings and R.Yarwood, 'Growing up, Going out and Growing out of the Countryside: Childhood Experiences in Rural England', *Children's Geographies*, 3, 2005, pp. 101-114; Jones, 'Tomboy tales'.
- ⁹⁵ Bondi et al. 'Emotional turn', p. 5.
- ⁹⁶ Bondi et al. 'Emotional turn', p. 12.
- ⁹⁷ Polito, 'Frederick Froebel's'.
- ⁹⁸ Chawla, 'Environmental Sensitivity'.
- ⁹⁹ Philo, 'Reveries'.
- ¹⁰⁰ Freire, *Pedagogy of the Oppressed*.
- ¹⁰¹ Katz, 'Childhood'.
- ¹⁰² A.Irwin, *Citizen science: A study of People, Expertise and Sustainable Development* (Abingdon: Routledge, 1995).
- ¹⁰³ See: <http://www.nhm.ac.uk/take-part/citizen-science/microverse.html>
- ¹⁰⁴ Goode, *Nature*.
- ¹⁰⁵ Bhatti et al., 'Enchanting Encounters' p. 63.
- ¹⁰⁶ Matthews, 'Children's representations'.
- ¹⁰⁷ Jones, 'Tomboy Tales'.
- ¹⁰⁸ Freeman et al. 'City Children'.
- ¹⁰⁹ K.L.Hand, C.Freeman, P.J.Seddon, M.R.Recio, A.Stein and Y.van Heezik, 'The Importance of urban gardens in supporting children's biophilia', *Proceedings of the National Academy of Sciences*, 14(2), 2017, pp. 274-279.
- ¹¹⁰ Harvey, *Geography of Difference*, p. 294.
- ¹¹¹ Relph, 1989, pp. 26-9 in Harvey, *Geography of Difference*, p. 301.
- ¹¹² C.Freeman, Y.van Heezik, A.Stein and K.Hand, 'Technological inroads into understanding city children's natural life-worlds,' *Children's Geographies*, 14(2), 2016, pp. 158-174.
- ¹¹³ Freeman et al, 'Technological inroads', p.163.