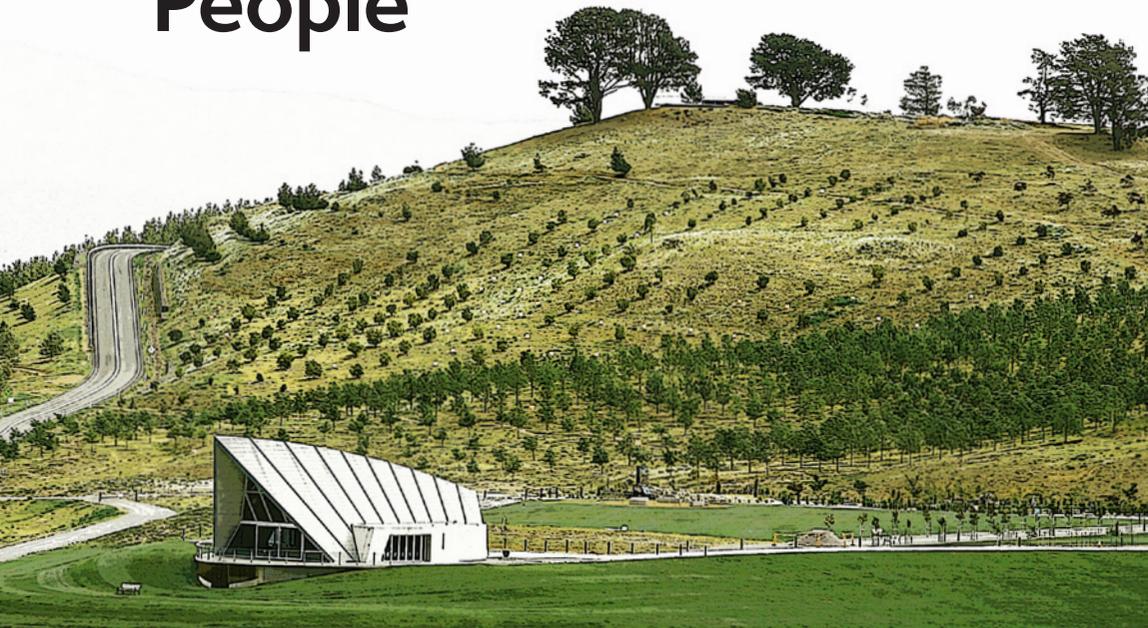


Clare Hickman and Sarah L. Bell

---

# Unlocking Landscapes Through Westonbirt's Archive: Exploring the Inclusive Possibilities of Entangled Histories of Plants, Places and People



**PLANT PERSPECTIVES 1/1 - 2024: 165–188**  
DOI: 10.3197/WHPPP.63845494909711  
OPEN ACCESS CC BY 4.0 © THE AUTHOR

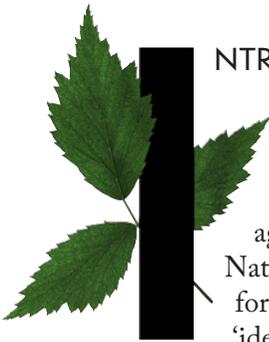
## ABSTRACT

There are growing calls across research, policy and practice to enable historic designed landscape experiences – from country estate gardens through to public parks and arboreta – that are accessible and engaging for all. In this paper, we highlight how meaningful access reaches beyond measures to enable physical presence in a landscape to the ways in which such landscapes, and human–plant relationships, are storied and interpreted, ensuring that people can also identify as part of the evolving stories of such places. Using twentieth century archival sources, particularly the diaries of foresters, held on site at Westonbirt, the National Arboretum in Gloucestershire, UK, we suggest ways in which sensory history approaches can be used to bring greater depth, context and diversity to historic designed landscape interpretation. Applying these approaches to archival research offers the potential to broaden the stories shared about such landscapes, enabling people to learn about and relate to the varied social and sensory histories of these significant places, plants and the people that shaped them.

## KEYWORDS

sensory history, social history, inclusion, landscape, trees, worksapes

---



## INTRODUCTION

Since the 2003 Diversity Review (Ward Thompson et al., 2003), there has been growing momentum in the UK to nurture natural and cultural heritage landscapes that are ‘accessible to everyone’ (The National Lottery Heritage Fund, 2019), ‘for everyone, for ever’ (The National Trust, 2020), and that reinforce ‘identity and belonging’ (Welsh Government, 2017).

Despite such ambitions, use of and engagement with such landscapes remains uneven across diverse social groups and individuals, leading to concerns about a so-called ‘heritage participation gap’ (Maer et al., 2016; Historic England, 2020). To understand why this may be occurring, it is important to understand how and why particular stories – and human/non-human inhabitants – of landscape come to be privileged and prioritised over time (Alaimo, 2017; Bell, 2019, 2020), and how to promote a more inclusive sense of landscape belonging. To do so, we draw on the specific example of a widely celebrated Grade I listed historic landscape in Gloucestershire UK – Westonbirt,

the National Arboretum – but hope these findings will be of relevance to other designed arboreal landscapes.

Existing research has foregrounded and contested the longstanding tendency to construct landscape as a ‘particular *visual* mode of observing and knowing’ (Wylie, 2007: 5). With the term ‘landscape’ originating in the seventeenth century, there was a tendency to privilege the landscape perceptions and values of elite, wealthy (white, male) landowners who had the power and resources to re-imagine and represent their landscapes within archival and field records as works of art ‘to be looked upon on as one would a painting’ (Whyte, 2015: 926). Indeed, since the eighteenth century, visual landscape contemplation has been reified, with aesthetic ideals of beauty, the picturesque and the sublime capturing the Romantic imagination (Macnaghten and Urry, 1998). Despite efforts to counter these dominant visual tropes (Braun 2005), an emphasis on the visual and the ‘scenic’ tends to persist in landscape management policy and practice (Morris, 2011; Strategic Historic Environment Forum, 2016). This emphasis risks alienating those who experience the landscape primarily through sound, touch, scent and movement (Macpherson, 2008; Bell, 2019, 2020), and those who actively work with, shape and care for the plant and animal life that co-constitute such landscapes. Responding to the call for more embodied history (Parr, 2010: 1–24), we pivot away from this elite conception of the landscape, instead recognising landscapes as created, managed and experienced physically by labouring bodies interacting on a variety of sensory and emotional levels with plants and their habitats. This shift in focus also provides an opportunity to bring physical human-plant relationships to the fore.

The failure to fully understand alternative and diverse ways of inhabiting, sensing, and making sense of landscape has led to the rise of so-called ‘accessible’ experiences that tend to segregate on the basis of perceived difference rather than fostering genuine social inclusion and transformation within landscape interpretation efforts (Historic England, 2015; Sensory Trust, 2017). While there are promising efforts underway to improve physical landscape access, such as the ‘Miles Without Stiles’ initiative originating in the Lake District and the ‘Countryside Mobility’ scheme operating across southwest England, it is important for people also to identify as part of the evolving story of

a landscape, recognising feelings of landscape belonging as relational achievements (Harvey, 2015).

Similarly, human-plant interrelationships are entangled and complex beyond the visual, and these are 'best studied within the complex webs of relationships that exist between plants, animals, objects, environments and people' (van der Veen, 2014: 799). As Jones has argued 'the differing ways identity is performed through trees and forest landscapes, be it through work, history, culture or politics, are thus a complex outcome of entanglement between the human and the trees and forests themselves' (2011: 159). Whilst the social, cultural and natural heritage embodied in landscapes can 'provide a sense of continuity across generations and contribute to healthy identity construction' (Napier et al., 2017: 15), failing to respect human diversity in landscape interpretation (for example, through the reproduction of ableist, classed, gendered and racialised cultural narratives, Tolia-Kelly, 2007) can both exclude and alienate. In this paper, we reflect on opportunities to draw on sensory history approaches to bring greater temporal depth and context to historic designed landscape interpretation, foregrounding sensory and social diversity both in the stories told about landscape, plants and humans, and the ways in which they are told.

## LANDSCAPES FOR ALL: A ROLE FOR SENSORY HISTORY?

The generally visually dominated approach of landscape history can close off avenues of wider historical exploration, but there are opportunities to change this by using sensory history methodologies. As noted by historians Hardy and Cushing (2017: 140), 'most sensory historians agree there has been an overemphasis on sight in the writing of history, with much of what is recorded in images and texts preserving visual impressions'. Newer work in garden and landscape history – such as the Dumbarton Oaks publication, *Sound and Scent in the Garden*, edited by Fairchild Ruggles (2017) – has begun a wider academic conversation about the sensory history of a range of landscapes from around the world (see also Hickman, 2021).

The emphasis on sight in landscape history has long been reproduced in landscape interpretation approaches, although efforts are being made to broaden the sensory focus. In a survey of the state of the

field of sensory history, Tullett (2021: 805) commented that ‘in museums and heritage the ocular-centric institutions that emerged during the nineteenth century, ruled by the demand to look but not touch, have been replaced with object-handling, sound-installations, pedal-operated sniffing devices and opportunities to taste recreated food and drink based on historical recipes’. Similarly, some gardens such as the Oxford Botanic Garden, UK, and the Royal Botanical Gardens, Canada, have developed programmes encouraging visitors to engage sensorially with select plants in their collection. There is clearly more potential to develop this sensory engagement through the plants themselves. However, it is fair to argue that such efforts are less apparent within outdoor historic designed landscapes than indoor attractions (although the work of organisations such as the Sensory Trust has been encouraging change in this area, working with wider forms of sensory engagement to address the inaccessibility of many of these landscapes). There is clearly potential to develop the sensory engagement of people with the plants themselves. As Ryan records from his field interviews in Australia, ‘the interconnections between plant materiality – the spikiness, stickiness, smelliness of living plants, as well as the qualities of plant-based objects – and human memory are palpable’ (2017: 212).

In order to investigate how archives relating to historic landscapes might be read through the lens of sensory history for our project, *Unlocking Landscapes: History, Culture and Sensory Diversity in Landscape Use and Decision Making*, we worked with the onsite collection at Westonbirt Arboretum – which today includes over 15,000 trees and 600 acres of woodland. This archive primarily retains papers relating to the years since 1956 when the UK Forestry Commission took ownership, with the site now managed by Forestry England, a more recently established division of the Commission. Such institutional plant collections might not seem an obvious place to look but important narratives and sensory experiences lie within the box of twentieth-century official civil service work diaries, as well as unlikely sources such as the National Insurance Act Accident book. These sources tell histories of labour, and the close sensory and emotional relationships of working people to the site and the trees, particularly foresters, as well as giving occasional insights into other uses by visitors (both official and unofficial) and the personal lives of these key personnel. The work diaries consulted were a consistent run of hand-written daily notations within

official HMSO issued blank diaries, dating from the 1950s-70s. These were mainly completed by Edward (Ted) Leyshon who was the first Research Forester after the Forestry Commission took over the site in 1956; they give an insight into the day-to-day work on the site managing the plants and the people, from which we can glean labouring as well as sensory histories.

Our methodology follows the well-trodden approach of social and labour historians, which commonly trace their origins back to Thompson and his ground breaking book, *The Making of the English Working Class*, in which he claimed, 'I am seeking to rescue the poor stockinger, the Luddite cropper, the "obsolete" hand-loom weaver, the "utopian" artisan, and even the deluded follower of Joanna Southcott, from the enormous condescension of posterity' (1963: 12). However, we aim to extend this further by suggesting an approach to landscape interpretation that combines social and sensory histories to tell new narratives. As Smith (2021) argues, there is a strong historical interrelationship between the developments of social and sensory history. As such, we focus here on the experiences of workers within the Westonbirt Arboretum landscape.

This approach is also grounded in the concept of the 'workscape' posited by environmental historian, Andrews, in contrast to notions of landscape as static or detached. Focusing on landscapes of coal extraction in late nineteenth and early twentieth century America (2008), Andrews conceptualises 'workscape' as 'a constellation of unruly and ever-unfolding relationships – not simply land, but also air and water, bodies and organisms, as well as the language people use to understand the world, and the lens of culture through which they make sense of and act on their surroundings' (2008: 125). This concept 'treats people as laboring beings who have changed and been changed in turn by a natural world that remains always under construction' (2008: 125). We draw on this concept as labour was also key to the restoration, maintenance and development of Westonbirt Arboretum in the 1950s, and continues to be integral to its maintenance and wider enjoyment. As one report stated in 1964:

On taking over the management of the arboretum, the most immediate tasks confronting us have been the following: bringing back the rides and avenues to a respectable condition, suitable for regular machine maintenance; salvage operations throughout the arboretum and Silk-wood, to free valuable subjects from intrusive growth of natural regeneration or less worthy trees and shrubs;

the provision of adequate propagation facilities and nursery space; the mapping and cataloguing of the collection; and the provisions of further planting space for new or under-represented subjects. (Wood, 1964: 85)

The concept of workscape allows us to move away from the idea of the static design moment, widening the discussion to take into account different temporalities and bodies, including those of plants, that have made and remade the landscape. As the Westonbirt Design Plan for 2021–2030 makes clear, their approach is a dynamic process: ‘ongoing maintenance and development will involve the removal of certain trees, however, the regular addition of between 100 to 250 healthy new specimen plants every year, will ensure that future generations can enjoy the living botanical collection and historic landscape’ (Ballard, 2021: 6). Andrews (2008) clearly links the labouring body to its environment and the concept of change as something which occurs both within the person as well as by them. In this paper, we attend to the landscape as an ever-changing workscape, co-constituted by humans, plants and other non-human activities. In particular, we reflect on the potential of sensory history approaches to inform more inclusive landscape interpretation strategies, as well as to better understand the intertwined histories of labour and the senses in these arboreal spaces.

## WESTONBIRT ARBORETUM – FROM NARRATIVES OF PEACEFUL LEISURE TO A RISKY WORKING LANDSCAPE

Today Westonbirt Arboretum is nationally significant due its historic importance (it is given protection through a listing process by Historic England because of this) and is classed as the National Arboretum for England. Like most historic designed landscapes, it is a palimpsest of history with layers of human involvement dating back centuries. Traces of these layers can still be seen in the Silk Wood where the practice of coppicing for woodland management is believed to date back to at least 1292. In 1831 it was recorded that, ‘no part of Silkwood is left standing for 24 years for the whole wood generally comes round to be cut in the course of 18 years or thereabouts’ which highlights a long history of labour and care of foresters within the landscape (Westonbirt, MAN A 6, typescript). However, the most dominant narratives used within interpretation on the site are the histories of the Holford family who

established the arboretum area, the plant collectors who located and brought back the exotic trees, and the biographies of the trees themselves. Robert Staynor Holford, in particular, looms large as he owned Westonbirt for 53 years, 'a period which saw a total transformation of the gardens as well as the building of the present house and the development of the arboretum and Silk Wood' (Symes, 1990: 159). As noted by Piebenga and Toomer (2007: 113), the Forestry Commission, which took on the site after decades of neglect, 'has had to balance the scientific value of the tree collection with the need to accommodate thousands of visitors each year, while at the same time paying heed to the unique, historic planting style employed by R. S. Holford'.

However, by shifting our focus to the later twentieth century history of the site, we gain an insight into the labour of managers and foresters and recognise their roles in shaping the landscape and its planting since its days as an elite private retreat. As Elliott, Watkins and Daniels note, it 'has been transformed since the 1950s under the Forestry Commission into a very popular national arboretum' (2007: 4) and transformed into a leisure space for a visiting public. Focusing on this equally important, later part of the site's history allows us to move away from visual preoccupations which highlight the 'picturesque' nature of the Holford's planting, as it is generally understood, to consider the noises, smells and other sensations experienced by those working during these decades of change. However, it is worth considering that the picturesque itself as a concept does allow for other ways of understanding the landscape beyond the visual aspects. As Daniels and Watkins (1991: 141) have noted of Uvedale Price, one of the eighteenth-century proponents of this landscape style, his idea of the 'picturesque' was more complicated than the generally understood conception of looking at the landscape like a picture. They argue that his aesthetic approach to landscaping engaged with his estate management in far more practical ways; 'picturesque landscaping was implicated not just with the appearance, but also with the fabric, of the countryside' (1991: 141). There is space, then, even within ideas of the picturesque to think about labour and landscape management. As Brook (2008: 117) notes in her analysis, 'the picturesque is the landscape that can arise with the human working in and with nature as a participant'.

These approaches also challenge some of the prominent narratives of such sites as historic places of peaceful leisure in the same manner

as time spent looking at a painting; narratives that seem unlikely given evidence of noise in the landscape in the past emanating from animals, people and lively activities such as mock naval battles known as *naumachia* (Felus, 2016: 60–62). While perceptions of peaceful leisure may still have been true for elite landscape owners, such as the Holfords, some of the time these narratives erase other histories such as those of gardeners, foresters and other workers of the land, and their close inter-relationship with the species they planted, nurtured, maintained and destroyed. Whyte (2013) argues that ‘too often it seems **the people are left out** unless they were the elite individuals responsible for the wholesale transformation of the landscape’.

At Westonbirt, the stories of the Holfords are foregrounded over both those of the Forestry Commission’s own institutional history and the histories of others that have cared for and interacted with the significant trees in the arboretum that are now highlighted to the visiting public. Westonbirt’s website highlights a number of ‘significant trees’ that have ‘come to perform a particular role in Westonbirt’s landscape, owing to their size, location or number within the collection’. These include, for example, the incense cedar (*Calocedrus decurrens*) which is native to Oregon and California, and Scots pine (*Pinus sylvestris*) which is a native conifer (<https://www.forestryengland.uk/westonbirt/signature-trees>). Related to these often-exotic tree collections, such as the incense cedars, are the wider colonial histories of indigenous relationships and the people who cared for, worked, lived with and knew the trees before the plant hunters arrived, appropriated and renamed them. Given the specific archival sources under investigation, this article focuses on the narratives of people working on a daily basis *within* the arboretum and interacting with the trees and other plants, but related examples of colonial erasure in relation to wider histories of plants and natural history collecting have been discussed elsewhere, for example by Das and Lowe (2018).

There is, of course, a dichotomy at the heart of turning these work-scapes into visitor attractions, whereby the sensory experiences sought out by visitors are often at odds with the lived reality of the maintenance and restoration work needed to sustain the cultural identity of these sites. As recognised by Mitchell, a Silviculturist for the Forestry Commission and author of the guidebook, *Westonbirt in Colour*, ‘these operations must never appear wholesale nor detrimental to the enjoyment of the

peaceful arboreal setting that the public come to see' (Mitchell, 1969: 5). This sentiment perhaps reflects the passive nature of expected visitor-plant interactions which 'should' predominately be visual and quiet. This mode of landscape interaction is akin to that expected from visitors to an art gallery or museum, with people encouraged to look but not touch; although that of course is changing and is a relatively modern conception (Classen, 2007).

From the title alone, it is obvious that Mitchell's guidebook would focus on the colours of the trees, and other associated plants, which have long been a highlight of Westonbirt's offer to visitors. The main headings of sections within the guidebook retain this visual approach, with categorisations based on seasonality and exceptionality/novelty: Winter flowering shrubs; coloured bark; spring flowers; summer flowers; autumn colour; autumn fruit; conifers; maples; sorbus species; very rare species; new trees and shrubs raised at Westonbirt; biggest specimens known in Britain (list of trees with height and girth); vistas, groups and designs. The only partially sensory description beyond what could be 'seen' was of 'peeling and flaking bark', although this could also be considered more visual than tactile, and there is nothing about the taste of the autumn fruit for example. Associated literature tends to reinforce rather than disrupt cultural perceptions of the ways in which the landscape should 'properly' be experienced: 'We are invited to inspect and photograph the landscape from clearly signed viewpoints, to traverse the landscape on way-marked routes and to understand the landscape via punctuations on those routes where interpretative information is provided. Such experiences will often have been preceded by idealized representations of the landscape in advertising brochures' (Jones, 2011: 171). There are, however, suggestions that visitor interactions with the trees were more transgressive, interactive and sensory than this, with Leyshon recording in 1958 that he had seen 'two women with cherry branches in the Silk wood' (Leyshon, Sunday 27 April 1958).

Reflecting parallels with the concept of 'workscape' – albeit not limited to the experiences of employed labouring bodies – anthropologist Ingold similarly reframes landscapes as 'taskscape', recognising they are multisensory places that are 'perpetually under construction' (Ingold, 1993: 162), where humans are in intimate and dynamic sensory contact with plants, weather and the other co-constituents (1993: 170):

Yet you do not only look, you listen as well, for the air is full of sounds of one kind and another. Though the folk beneath the tree are too busy eating to talk, you hear the clatter of wooden spoons on bowls, the slurp of the drinker, and the loud snores of the member of the party who is outstretched in sleep. Further off, you hear the swish of scythes against the cornstalks and the calls of the birds as they swoop low over the field in search of prey. Far off in the distance, wafted on the light wind, can be heard the sounds of people conversing and playing on a green, behind which, on the other side of the stream, lies a cluster of cottages. What you hear is a taskscape.

This is to some extent a rather romanticised sensory vignette of an imagined past, but historic evidence from Leyshon's diary demonstrates that the early years of the Forestry Commission's ownership created an explosive, noisy workscape. In January 1958 the air was filled with the sounds and smells of gelignite being exploded to remove tree stumps in the Sand Earth area of the site. On 2 January, Leyshon records that he: 'Set up warning notices, flags in Silk Wood for blasting. Jim Waller came 11.30 with explosives. 5 stumps blown out in Sandearth. Used say 10 lbs gelignite & approx. 28 detonators'. On the following day this continues: 'Collected the material and transported to Silk Wood (2 journeys). Remainder of day blasting in Sandearth. About 11 stumps blown. 9lbs gelignite 50 detonators. Collected all flags & notice boards a little after 4.00 pm' (Leyshon, Friday January 3, 1958). This was all part of the management of what had been or was perceived to be a neglected overgrown site. As quoted above, R.F. Wood (conservator, Research, Forestry Commission) had reported in 1964 that the taking over of the management of the site by the Forestry Commission had led to large-scale landscape change, including work to 'free valuable subjects from intrusive growth of natural regeneration or less worthy trees and shrubs' presumably in some cases via the blasting of inappropriate tree specimens (1964: 85). This loud activity (which would potentially have created an intense smellscape too) was a far cry from the idea of quiet natural space, so much so that the police had to be informed in advance of this level of noisy intervention. Much of this activity sought to 'tame' or 'order' the trees and other plants in the landscape as a previously private estate was transformed into a visitor attraction, as well as to categorise them into more and less 'worthy' specimens.

The focus on designed historic landscapes as peaceful leisure spaces also hides the realities for people engaged in shaping and maintaining these landscapes, particularly in relation to forestry work. For example,

Bingley (2013) conducted oral histories with people both historically and currently engaged in coppicing and woodland work in North-West England, many of whom challenged popular notions of the peaceful, healthy ‘green idyll’. They described the detrimental aspects of their work for health and wellbeing, including the cumulative influence of sometimes quite isolated, poorly paid, physically exhausting and dangerous work. There are also class dimensions here between conceptions of the landscape as a place of leisure (reflecting idealised upper and middle-class norms) as opposed to one of work. As Bender (2010) argues, sensory studies offer an approach which can help to unpack the role of social class in shaping landscape norms and experiences. In our example, the tranquil, relaxing woodland visit can easily be differentiated from the noisy, dirty work of the labourer. Mack (2015) similarly uses sensory history to interrogate middle class conceptions of the labouring classes. One example he gives relates to Payer’s work on noise, noting that Austria’s nineteenth century elite intellectuals ‘blasted noise as an enemy of civilization itself. Their critique of noise as a threat to Vienna’s culture was summed up in the motto of the city’s Anti-noise Society, “Silence is noble”’ (2015: 6). This example reflects a form of ‘urban prejudice’ that has been critiqued in the wider body of literature on soundscapes, denigrating industrial sounds solely as ‘sonic pollutants’ (Arkette, 2004: 161). We can, therefore, draw connections between elite conceptions of the nobility of silence contrasting with the noise of industry and leisure of the lower classes.

From the National Insurance Act Accident Book at Westonbirt, we also get a sense of the dangers of human/more-than-human encounters within the arboretum as a workscape including the following four entries:

1977, Arboretum section I: Cut to top of head – hit by falling branch ... had just finished work ... and had just sat down for the 1pm meal brake [sic.] when a small branch fell on his head.

1980, Silk wood: Wasp stings on leg. Bathed dettol. Forest office.

1984, Public toilet, near V.C: Flushing toilet – chain broke and cut and bruise close to right eye.

1984, Silk wood: bit by adder on left hand treated at Royal Gloucester Hospital.

Such accounts can bring both humour and drama to interpretation stories (the toilet chain breaking definitely has the possibility to do that!) as well as highlighting the difficulties of labour and the potential

for physical damage to humans from entangled working relationships with plants and other more-than-human agents.

There are other accounts in Rice's diaries of 1959 of cuts to hands and fingers for example: 'Victor cut off thumb(b?) on saw. Walt cut finger while painting pea sticks' (Saturday May 23). On the following Monday he recorded that 'Victor & Walt absent. Walt cut hand with bill hook' (Monday May 25). Such accounts hint at the potential for becoming impaired through forestry work. As recently as 2015, researchers argued that 'the forest industry is amongst the most physically dangerous to work in worldwide' (Mylek and Schirmer, 2015: 392). Other forms of work within the landscape also bring risks and by ignoring these narratives we may be unintentionally erasing the experiences and existence of important individuals and groups. As Blackie and Turner's research has revealed, "Disabled" Britons worked throughout the nineteenth century, often in some of the most physically arduous industries of the time' (2018: 38). As they note, the lack of visibility of disabled bodies in histories of labour is problematic as 'not only does this obscure the historical meaning of work and impairment; it also reinforces inaccurate and harmful ideas about the productive capacities of disabled people' (2018: 8). There is no reason to believe that this is not true of landscape labour histories, with more effort needed to locate disabled people and their stories.

This concern reflects a wider issue relating to archival research and the documents that have been retained within the archives themselves. Brilmyer (2022: 168) has recently interviewed disabled archival users who noted a 'complete absence of representation around disability in archives', or where there was some representation, there was then a lack of complexity in what was represented. Using health and accident accounts of those shaping the landscape – and their often challenging, physical interactions with the site – could be just one way to highlight how common disabling events were in the past, and one that could be supplemented with oral histories where archival sources are completely silent.

There are also accounts of the weather in the diaries which point to the challenging realities of working in close proximity to trees in all the elements. These accounts include, for example, brief, daily descriptive sentences such as 'Very cold, cloudy and snow later then rain' (Leyshon, Wednesday 12 March 1958). If tracked over decades, this daily record gives us a pattern of weather which could be used to connect today's

visitors to the past experiences of workers in the same space. Other diaries include more detail, for example D.J. Rice, assistant forester, wrote in a more romantic style particularly at the start of his tenure. In January 1959 he recorded that there was: 'Frost. Road very icy. Snow 1½". Very beautiful on trees in bright sunlight' (Rice, Thursday 8 January 1959). Alongside these daily records, a number of extreme weather events are noted, including regular entries during the winter of 1963 that illustrate the difficulties and hardship of living and working in such a landscape. For example:

Severe frost night of 18/19. Deep snow lying. Strong East wind. Sunny. Pauline [his wife] at Mrs Dick's am. Look after children & routine jobs. Collected Pauline and went to Tetbury – difficulty getting down drive. Stuck in drifting snow on drive on way back – collided with fence. 1 ½ hours to dig out. (Leyshon, Saturday 19 January 1963).

Snow (1") night of 19/20. Deep snow lying, Dull and cold. Drive blocked again. Freezing rain at night. (Leyshon, Sunday 20 January 1963).

Alongside the daily entries, key events are sometimes noted relating to both the weather and the seasons. For example, on the front cover of Leyshon's diary for 1970 he records the following: 'First real spring day, May 3rd. Long, cold wet weather Jan Feb Mar & Apr. Drought late May Early June. First snow on Christmas Eve after mild Autumn'. Although not part of the central research for this paper, the transcribed *Westonbirt Arboretum and Silkwood Log Book* kept by William John Mitchell (Head of Gardens in the 1920s and 1930s), also gives a sense of the centrality of the weather to life working with plants. In his notes for the year 1929, he wrote,

The spring was very late, I don't think there could have been a more beautiful one everything both flowering and foliage seemed perfect, probably due to their escaping the spring frosts. The Acers I was particularly pleased to see undamaged this past spring. For 3 years in succession they have been injured in this way, and I am afraid we hardly realise the effects of this cumulative injury. When a tree dies I think frequently this is the cause of its doing so, what greater checks can there be than to have all its young foliage destroyed and growths cut back to a tree (Mitchell, 1929: 30).

This extract also hints at an emotional relationship with the trees, including the attachment Mitchell felt to their wellbeing, demonstrating a level of care and connection. This is something which should not be overlooked. Recent work in Melbourne exploring the responses of

people to the loss of street trees has argued that we should not ignore such feelings, highlighting the importance of ‘lamenting as a process through which feeling, accounting for, sharing, and placing loss fold through one another, through time, among bodies, and in places, taking shape in individual and collective ways’ (Phillips, Atchison and Straughan, 2023: 2). This historic example also fits with more recent research which has suggested that plant environments can be ‘a site of potentially transformational “enchanted encounters” through the possibility of social tactile-sensory immersive engagement in the world’ (Delsesto, 2020: 204).

The accounts discussed above counter prominent narratives of such landscapes as quiet spaces of leisure and retreat, as well as ideas that the sensory experience of landscape is always a positive, healthy one. For those out working in all weathers, these spaces can be challenging and difficult environments as well as providing opportunities for encounters of awe and wonder. Such archival narratives can be used to initiate a broader dialogue about the nuances of historic landscape histories, beyond those of the elite landowners, plant collectors and designers. By placing a greater diversity of humans back into the landscape stories shared, we can also highlight the importance of human-plant care in the history of landscape making, remaking and ongoing maintenance which is often invisible to the casual visitor. This is not to say that historic places are yet to do this; at The Lost Gardens of Heligan in Cornwall, for example, the stories of the gardeners are given prominence. However, such efforts could be expanded to wider landscapes and to feature untold sensory histories of agricultural workers, foresters and gardeners in relation to plants, as well as other individuals and groups such as those visiting and passing through at different stages of a site’s history.

There are signs that Forestry England are thinking in such ways themselves as their ambitious management plan for Westonbirt (2021–30) has stated that they intend to ‘develop plans for a new engagement ‘hub’ for scientific exploration, engagement with visitors in real decision making, and interpretation regarding arboretum management and work in action’ (Ballard, 2021: 15). The narratives outlined here highlight one way in which such management and work in action could be contextualised through the experiences of foresters in the past as well as those working there now. Similarly, referring to an area of ancient forest

at Westonbirt, the plan states the intention to ‘develop Silk Wood’s diverse landscape in a way that supports a dynamic and inclusive engagement programme that enables people to understand and actively engage in the management of Silk Wood; tell the story of its history; increases awareness of the threats to woodland in a changing world, and the benefits of woodland to better health and wellbeing’ (Reynolds, 2020: 4). Again, past narratives have a place in telling the histories of those who have coppiced, planted trees and even blown-up stumps in order to manage the woodland in relation to practices of their time. Such historical contexts are, we would argue, essential in placing contemporary challenges and practices within a longer narrative of change and human engagement with the treescapes.

The temporalities of the stories told about landscape are then also important. People involved in managing arboreal landscapes like Westonbirt Arboretum are acutely aware of the risks of climate disruption for the trees they protect, the landscapes they come from, and the many human and more-than-human lives that are reliant upon them. Growing calls to connect with trees (and ‘nature’ more broadly) in the name of health and wellbeing need to embed pro-active strategies to help people cope with more distressing experiences of impending or experienced environmental change. As argued by Chawla (2020: 630), ‘as processes of global environmental change accelerate, there is a dark side to feeling kin to creatures that are disappearing... To feeling connected to a world whose life systems are unravelling’. Perhaps a key role for historians during this time of rapid change and adaptation is to give a clear sense of temporal context and point to periods of environmental and social change in the past, highlighting strategies used to cope with and adapt to them alongside narratives of changing plant-human interrelationships.

## CONCLUDING REMARKS

In this paper, we have explored just one example, analysis of a single box of archival sources to reflect on opportunities to use sensory history to tell different landscape stories; stories that may resonate in ways that foreground plant-human connections and that are perhaps more relatable and accessible for people who might not otherwise feel at home

in such traditionally 'exclusive' settings. These sources expand perceptions of Westonbirt Arboretum as an elite space of peaceful leisure, by highlighting its history as a workscape, including the importance of close human/more-than-human interrelationships in the shaping and management of the place through labour. By drawing on such histories in landscape interpretation efforts – and through sharing contemporary narratives of labour in the landscape – we could re-animate the stories of these landscapes and situate a greater diversity of people within them. The sensory lens also has the potential to bring to the fore the entangled histories of plants and labourers and cause us to question our culturally embedded conceptions of designed landscapes as solely tranquil retreats, as they have often been for the elite.

Recognising the potential for carefully curated stories to inform change (Rice and Mündel, 2018), people can claim space through creative efforts to 'move past the single story that collapses the diversity of experience and replace it with a multiplicity of stories' (Mykitiuk et al., 2015: 380). The approaches to archival research discussed here have the potential to change the stories we tell, creating more inclusive landscape narratives, as well as helping people learn about the broader histories of the landscapes and the interweaving of plant-human lives that constitute them. The focus on 'stories' rather than 'story' is key as there are many, often overlapping, narratives, which can speak to similarly diverse landscape visitors, shapers and inhabitants. As civil rights activist, Grace Lee Boggs, wrote: 'History is not the past. It is the stories we tell about the past' (2012: 79). She also argues that it is important to consider 'how' we tell these stories. Indeed, stories can 'bring us together and teach us about the world; yet they are also the things that break us apart and make us invest in ways of being that are destructive to each other and to the world' (Rice and Mündel, 2018: 220). The crafting and telling of stories around landscape histories similarly needs research, care and thought.

An over-reliance on written text and interpretation boards can reinforce already privileged experiences and ways of perceiving landscape, and may limit more experiential and embodied ways of sensing, knowing, imagining and understanding landscapes and their constituent plants that are just as important. For example, within this project, we worked with a sound artist and visually impaired facilitator, to create a 'Sensing History' sound installation at Westonbirt in April 2022, which

was designed to inspire visitor imaginations about the diverse histories of the site and its inhabitants (human and otherwise).<sup>1</sup> With speakers located at varied heights through the trees and a recorded narrative interspersed with a rich soundscape, the experience took visitors on an imaginary journey from the Ice Age to the Iron Age, to the creation of the arboretum and the present day, making links to the endangered global geographies of the valued arboretum tree species and foregrounding the dynamic nature of the landscape over time. This type of creative interpretation, which draws on sensory histories, moves away from an exclusionary focus on framing such places primarily as static ‘beautiful’ settings to appreciate from a distance, recognising them instead as multisensory working landscapes, often connected through their careful mix of species and past/contemporary labour, to endangered and changing landscapes all round the world.

Lessons could also be learned from the creative approaches to historic landscape interpretation developed by the Sensory Trust; from an inclusive tree film trail installed (at the time of writing) at three woodland sites in the south west of England that draws on evocative multisensory stories of trees and plants (Kendle, 2021), to the use of sensory mapping and sensory trail markers and the installation of benches with tactile clay tiles providing a subtle invitation to engage with the full range of sensory experiences on offer in such historic settings (discussed in Hickman and Bell, 2023). Similarly, the ‘Sensing Culture’ project developed a range of creative approaches to interpretation at Lewes Castle in the south east of England; from an adapted listening bench and mobile application providing an audio described tour of the castle featuring historic characters and binaural recordings,<sup>2</sup> to the creation of multisensory ‘Castle Explorer Bags’ containing resources such as recorded stories, scent and sound activities, objects and creative activities.<sup>3</sup>

In the case of Westonbirt Arboretum, we were not sure at the start of the project whether any useful archival documents would exist on site to identify such sensory histories and are grateful to Forestry England for pointing us in the direction of the box of recently donated diaries. There is a lesson to landscape historians here to be open minded when

1 <https://sensing-nature.com/news/sensing-history/>

2 <https://sensingculture.org.uk/case-studies/lewes-castle-audio-guide/>

3 <https://sensingculture.org.uk/case-studies/lewes-castle-app/>

investigating archives, and to explore what might otherwise seem like unlikely places to find traces of the sensory experiences of those who were present in the landscape in the past. Of course, not all landscapes will have archival documentation but there are other archaeological ways of reading places as workspaces, tracing marks on the land or examining plants themselves, for example to identify histories of coppicing, or signs of earlier management practices that could also signpost new ways in for contemporary visitors (Rackham, 2018: 39–60; ). As Dufraisse et al. (2022: 2) state, ‘the forest can be understood as part of the social space of a community, both shaping and shaped by communities’, and it is important that all available methods are used to clarify the myriad connections that exist between different communities and their woodlands. It also raises the essential role of accessible landscape histories and stories that emphasise the dynamic qualities of landscape, helping to resist disempowering anxious logics of change and ensure continued landscape care in the face of such change.

## ACKNOWLEDGEMENTS

This work was supported by the Arts and Humanities Research Council [AH/T006080/1] and the Natural Environment Research Council [NE/V02020X/1]. With thanks to Westonbirt, The National Arboretum, and particularly Alison Vry; to Andy Shipley, James Bulley, Ed Borgnis, Imogen Robertson and Michelle Newell for creating and producing the Sensing History sound installation at Westonbirt; to the ESRC Impact Acceleration Account for funding the ‘Re-Storying Landscapes for Social Inclusion’ project’, Abbi Flint and the Unlocking Landscapes Steering Group.

## BIBLIOGRAPHY

- Alaimo, S. 2017. ‘Foreword’. In S.J. Ray and J. Sibara (eds). *Disability Studies and the Environmental Humanities. Toward an Eco-Crip Theory*. Nebraska: Board of Regents of the University of Nebraska. pp. ix – xvi.
- Andrews, T.G. 2008. *Killing for Coal: America’s Deadliest Labor War*. Massachusetts: Harvard University Press.
- Anon. ‘Particulars of Silkwood 1831’, typescript from original in Gloucestershire Record Office D1956 (Westonbirt MAN A 6).

- Arkette, S. 2004. 'Sounds like city'. *Theory, Culture & Society* **21** (1): 159–68.
- Ballard, M. 2021. *Westonbirt, The National Arboretum: Forest (Arboretum) Design Plan 2021–2030*. Forestry England: <https://www.forestryengland.uk/sites/default/files/documents/Westonbirt%20Forest%20%28Arboretum%29%20Design%20Plan%202021-2030%20-%20FINAL%20VERSION-merged-compressed.pdf> (Accessed February 2023).
- Bell, S.L. 2019. 'Experiencing nature with sight impairment: seeking freedom from ableism'. *Environment and Planning E: Nature and Space* **2** (2): 304–22.
- Bell, S.L. 2020. 'Sensing Nature: Unravelling metanarratives of nature and blindness'. In S. Atkinson and R. Hunt (eds). *Geohumanities and Health*. Springer Global Perspectives on Health Geography. Ch. 6, pp. 85–98.
- Bender, D. 2010. 'Sensing labor: The stinking working class after the cultural turn'. In D. Haverty-Stacke and D. Walkowitz. *Rethinking U.S. Labor History: Essays on the Working-Class Experience, 1756–2009*. New York: Continuum. pp. 243–65.
- Bingley, A. 2013. 'Woodland as working space: Where is the restorative green idyll?' *Social Science and Medicine* **91**: 135–40.
- Blackie, D. and D. Turner. 2018. *Disability in the Industrial Revolution: Physical Impairment in British Coalmining, 1780–1880*. Manchester: Manchester University Press.
- Braun, B. 2005. 'Environmental issues: writing a more-than-human urban geography'. *Progress in Human Geography* **29** (5): 635–50.
- Brook, I. 2008. 'Wildness in the English garden tradition: a reassessment of the picturesque from environmental philosophy', *Ethics and the Environment* **13** (1): 105–19.
- Brilmyer, G.M. 2022. "'I'm also prepared to not find me. It's great when I do, but it doesn't hurt if I don't": crip time and anticipatory erasure for disabled archival users'. *Archival Science* **22**: 167–188.
- Chawla, L. 2020. 'Childhood nature connection and constructive hope: A review of research on connecting with nature and coping with environmental loss'. *People and Nature* **2** (3): 619–42.
- Classen, C. 2007. 'Museum manners: The sensory life of the early museum'. *Journal of Social History* **40** (4): 895–914.
- Daniels, S. and C. Watkins. 1991. 'Picturesque landscaping and estate management: Uvedale Price at Foxley, 1770–1829'. *Rural History* **2** (2): 141–69.
- Das, S. and M. Lowe. 2018. 'Nature read in Black and White: decolonial approaches to interpreting natural history collections'. *Journal of Natural Science Collections* **6**: 4–14.
- DelSesto, M. 2020. 'People–plant interactions and the ecological self'. *Plants, People, Planet* **2**: 201–211.
- Dufraisse A., S. Coubray, L. Picornell-Gelabert, M. Alcolea, O. Girardclos, F. Delarue and T. Nguyen. 2022. 'Taming trees, shaping forests, and managing woodlands as resources for understanding past societies. Contributions and current limits of dendro-anthracology and anthraco-isotopy'. *Frontiers in Ecology and Evolution* **10**: 1–10.

- Elliott, P., C. Watkins and S. Daniels. 2007. 'Preface to supplement: Cultural and historical geographies of the arboretum'. *Garden History* 35: 2–5.
- Felus, K. 2016. *The Secret Life of the Georgian Garden*. London: I.B. Taurus.
- Forestry Commission. *National Insurance Accident Book 1956–1990* (Westonbirt, A Man 1001).
- Hardy, A. and N. Cushing. 2017. 'A sensory history of the Newcastle asylum for imbeciles and idiots, 1871–1900'. *Journal of Australian Colonial History* 19: 139–60
- Harvey, D. 2015. 'Landscape and heritage: trajectories and consequences'. *Landscape Research* 40 (8): 911–24.
- Hickman, C. 2021. *The Doctor's Garden: Medicine, Science and Horticulture in Late Georgian Britain*. New Haven and London: Yale University Press.
- Hickman, C. and S.L. Bell. 2023. *Unlocking Landscapes: The inclusive role of sensory histories of people and place*: <https://www.unlockinglandscapes.uk/research-and-activities/unlockinglandscapesreport> (Accessed November 2023).
- Historic England. 2015. *Easy Access to Historic Landscapes*: <https://historicengland.org.uk/images-books/publications/easy-access-historic-landscapes/heag011-easy-access-to-historic-landscapes/> (Accessed June 2021).
- Historic England. 2020. *Heritage Indicators 2020. Heritage Counts*: <https://historicengland.org.uk/content/heritage-counts/pub/2020/heritage-indicators-2020/> (Accessed July 2021).
- Historic England. 2021. *Designed Landscapes*: <https://historicengland.org.uk/research/current/conservation-research/created-landscapes/> (Accessed March 2023).
- Ingold, T. 1993. 'The temporality of the landscape'. *World Archaeology* 25 (2): 152–74.
- Jones, O. 2011. 'Materiality and identity – forests, trees and senses of belonging'. In E. Ritter and D. Dauksta (eds), *New Perspectives on People and Forests*. Dordrecht: Springer, World Forests, 9. pp. 159–77.
- Kendle, T. 2021. *A Wonder in the Garden*. Cornwall: United Writers Publications Ltd.
- Lee Boggs, G., S. Kurashige and D. Glover. 2012. *The Next American Revolution: Sustainable Activism for the Twenty-First Century*. Berkeley: University of California Press.
- Leyshon, E. 1957–1974. Daily recording in HMSO Diaries (Westonbirt Archives).
- Mack, A. 2015. *Sensing Chicago: Noisemakers, Strikebreakers, and Muckrakers*. Illinois: University of Illinois Press.
- Macnaghten, P. and J. Urry. 1998. *Contested Natures*. London: Sage Publications Ltd.
- Macpherson, H. 2008. 'Between landscape and blindness: some painting of an artist with macular degeneration'. *Cultural Geographies* 15: 261–69.
- Maer, G., A. Robinson and M. Hobson. 2016. *Values and benefits of heritage: A research review*: [https://www.heritagefund.org.uk/sites/default/files/media/research/values\\_and\\_benefits\\_of\\_heritage\\_2015.pdf](https://www.heritagefund.org.uk/sites/default/files/media/research/values_and_benefits_of_heritage_2015.pdf) (Accessed July 2021).
- Mitchell, A.F. 1969. *Westonbirt in Colour*, Forestry Commission Guide. Westonbirt Archives.
- Mitchell, W.J. (Transcribed by Peter Walker and edited by Carolyn Gilman). 2010. *Westonbirt Arboretum and Silkwood Log Book 1928–39*. Westonbirt Archives.

- Morris, N.J. 2011. 'Night walking: darkness and sensory perception in a night-time landscape installation'. *Cultural Geographies* **18** (3): 315–42.
- Mykitiuk, R., A. Chaplick and C. Rice. 2015. 'Beyond normative ethics: Ethics of arts-based disability research'. *Ethics, Medicine and Public Health* **1**: 373–82.
- Mylek, M.R. and J. Schirmer. 2015. 'Beyond physical health and safety: supporting the wellbeing of workers employed in the forest industry'. *Forestry: An International Journal of Forest Research* **88** (4): 391–406.
- Napier, A.D., M. Depledge, M. Knipper, R. Lovell, E. Ponarin, E. Sanabria and F. Thomas. 2017. *Culture Matters: Using a cultural contexts of health approach to enhance policy-making*. Policy Brief No. 1, World Health Organisation: [https://www.euro.who.int/\\_\\_data/assets/pdf\\_file/0009/334269/14780\\_World-Health-Organisation\\_Context-of-Health\\_TEXT-AW-WEB.pdf](https://www.euro.who.int/__data/assets/pdf_file/0009/334269/14780_World-Health-Organisation_Context-of-Health_TEXT-AW-WEB.pdf) (Accessed February 2023).
- National Lottery Heritage Fund. 2019. *Strategic Funding Framework 2019–2024. Inspiring, leading and resourcing the UK's heritage*: <https://www.heritagefund.org.uk/sites/default/files/media/attachments/Heritage%20Fund%20-%20Strategic%20Funding%20Framework%202019-2024.pdf> (Accessed 11 June 2019).
- National Trust. 2020. *For everyone, for ever. Our Strategy 2020–25*: <https://www.nationaltrust.org.uk/who-we-are/our-strategy> (Accessed February 2023).
- Parr, J. 2010. *Sensing Changes: Technologies, Environment, and the Everyday, 1953–2003*. Vancouver: UBC Press.
- Phillips, C., J. Atchison and E. Straughan. 2023. 'The power of lament: Reckoning with loss in an urban forest'. *Environment and Planning E: Nature and Space* **6** (4): 2358–2378.
- Piebenga, S. and S. Toomer. 2007. 'Westonbirt Arboretum: From private, nineteenth-century Estate collection to national arboretum'. *Garden History* **35**: 113–28.
- Rackham, O. 2018. 'Archaeology of trees, woodland, and wood-pasture'. In A.H. Çolak, S. Kirca, and I.D. Rotherham (eds), *Ancient Woodlands and Trees: A Guide for Landscape Planners and Forest Managers*. Vienna, IUFRO World Series Volume 37. pp. 39–60.
- Reynolds, C. 2020. Silk Wood Woodland Management Plan, Forestry Commission England. CR – FR 17-09-20. V6. Document forms part of *Westonbirt, The National Arboretum: Forest (Arboretum) Design Plan 2021–2030*.
- Rice, C. and I. Mündel. 2018. 'Story-making as methodology: Disrupting dominant stories through multimedia storytelling'. *Canadian Sociological Association* **55** (2): 211–31.
- Rice, D.J. 1959. Daily recording in HMSO Diary (Westonbirt Archives).
- Ruggles, D.F. (ed.) 2017. *Sound and Scent in the Garden*. Washington, DC: Dumbarton Oaks.
- Ryan, J. 2017. 'Botanical memory: Materiality, affect and Western Australian plant life'. In J. Damousi and P. Hamilton (eds), *A Cultural History of Sound, Memory, and the Senses*. New York & Oxon: Routledge. pp. 212–30.
- Sensory Trust. 2017. *By All Reasonable Means: Least Restrictive Access to the Outdoors*. A guide produced by the Sensory Trust in collaboration with, and on behalf of,

- Natural Resources Wales. Cardiff: Natural Resources Wales: <https://www.sensorytrust.org.uk/uploads/documents/ByAllReasonableMeansEnglandAug2020.pdf> (Accessed July 2021).
- Smith, M. 2021. *The Sensory Manifesto*. University Park, PA: Penn State University Press.
- Strategic Historic Environment Forum. 2016. *Landscape and the Historic Environment – A Common Statement*: <https://www.nature.scot/professional-advice/landscape-change/landscape-policy-and-guidance/landscape-historic-environment> (Accessed 10 June 2019).
- Symes, M. 1990. 'Westonbirt Gardens: A Victorian Elysium'. *Garden History* **18** (2): 155–73.
- Thompson, E.P. 1964. *The Making of the English Working Class*. New York: Pantheon Books.
- Tolia-Kelly, D.P. 2007. 'Fear in Paradise: The affective registers of the English Lake District landscape re-visited'. *Senses and Society* **2** (3): 329–52.
- Tullett, W. 2021. 'State of the field: sensory history'. *History* **106** (373): 804–20.
- van der Veen, M. 2014. 'The materiality of plants: plant–people entanglements'. *World Archaeology* **46** (5): 799–812.
- Ward Thompson, C., S. Bell, M. Satsangi et al. 2003. *Diversity Review: Options for Implementation*. A Report by OPENSpace in Association with SEMRU and CRSIS.
- Welsh Government. 2017. *Future Landscapes: Delivering for Wales. The Review of Areas of Outstanding Natural Beauty and National Parks in Wales*: [https://landscapesforlife.org.uk/application/files/7016/0620/7934/Future\\_Landscapes\\_-\\_Delivering\\_for\\_Wales\\_2017.pdf](https://landscapesforlife.org.uk/application/files/7016/0620/7934/Future_Landscapes_-_Delivering_for_Wales_2017.pdf) (Accessed August 2019).
- Whyte, N. 2013. *Landscape history from below*: <https://manyheadedmonster.com/2013/07/12/nicola-whyte-landscape-history-from-below/> (Accessed March 2023).
- Whyte, N. 2015. 'Senses of place, sense of time: Landscape history from a British perspective'. *Landscape Research* **40** (8): 925–38.
- Wood, R.F. (February 1964). Westonbirt Arboretum. *Journal of the Royal Horticultural Society*: 81–88 (Westonbirt A290).
- Wylie, J. 2007. *Landscape*. Abingdon: Routledge.

**Clare Hickman** is Reader in Environmental and Medical History at Newcastle University and her latest monograph is *The Doctor's Garden: Medicine, Science, and Horticulture in Britain* (Yale University Press, 2021). She has recently led two networks: 'MedEnv: Intersections in Medical and Environmental Humanities' (2020–2023) funded by the Wellcome Trust and the AHRC funded 'Unlocking Landscapes Network: History, Culture and Sensory Diversity in Landscape Use and Decision Making' (2020–2023). Clare is also the Co-I on the AHRC funded project, 'In All Our Footsteps: Tracking, Mapping and Experiencing

Rights of Way in Post-War Britain' (2021–2024), and 'Connected Treescapes: A Portfolio Approach for Delivering Multiple Public Benefits from UK Treescapes in The Rural-Urban Continuum' (2021–2024) funded by NERC.

*Email: Clare.Hickman@newcastle.ac.uk*

**Sarah L. Bell** is a Senior Lecturer in health geography at the University of Exeter, whose work examines experiences of health, wellbeing, disability and social inclusion in and with diverse forms of 'nature' - from parks, gardens, woodlands, coast and countryside to the weather, seasons and climate change ([www.sensing-nature.com](http://www.sensing-nature.com)). Most recently, Sarah has been developing new collaborations to understand how the climate crisis – and prominent societal responses to it – is shaping the everyday lives and adaptive capacities of people with varied experiences and histories of disability ([www.sensing-climate.com](http://www.sensing-climate.com)).

*Email: sarah.bell@exeter.ac.uk*