

Fractured stories and voices of the future; coproduced research with young children and trees

HACKETT, Abigail <<http://orcid.org/0000-0003-4332-8594>>, KRAFTL, Peter, POOL, Steve and WHITE, Jan

Available from Sheffield Hallam University Research Archive (SHURA) at:

<https://shura.shu.ac.uk/34839/>

This document is the Published Version [VoR]

Citation:

HACKETT, Abigail, KRAFTL, Peter, POOL, Steve and WHITE, Jan (2025). Fractured stories and voices of the future; coproduced research with young children and trees. *Global Studies of Childhood*. [Article]

Copyright and re-use policy

See <http://shura.shu.ac.uk/information.html>

Fractured stories and voices of the future; coproduced research with young children and trees

Global Studies of Childhood

1–14

© The Author(s) 2025



Article reuse guidelines:

sagepub.com/journals-permissions

DOI: 10.1177/20436106251315211

journals.sagepub.com/home/gsc**Abigail Hackett** 

Sheffield Hallam University, UK

Peter Kraftl

University of Birmingham, UK

Steve Pool

Manchester Metropolitan University, UK

Jan White

Outdoors Thinking, UK

Abstract

What does it mean to bring very young children into conversations about climate change? *Voices of the Future* was a 3-year, multi-site project based in the UK, aiming to investigate treescapes through participatory research with children and young people. This paper focuses on a strand of the project that explored playing and making in and with treescapes, with children aged under 5 years and their grownups. We interrogate what it looks like to do coproduced participatory research about sustainable futures with young children and some of the tensions and contradictions that this kind of work brings into sharper relief. In particular, we describe moments of ‘off-taskness’, and the resultant ways in which trees and children came in-and-out of focus in the research, as important for surfacing what we have called ‘fractured stories’. Fractured stories enabled us to imagine otherwise and to ask different questions. As a result, we offer five working principles, shaped by and emerging from our research and the fractured stories it produced, which may act as guidance for both future scholarship and practice with young children and trees.

Keywords

childhood studies, environmental education, more-than-human, stories

Corresponding author:

Abigail Hackett, Sheffield Institute of Education, Charles Street Building, Sheffield Hallam University, Charles Street Building, City Campus, Sheffield S1 2NH, UK.

Email: a.hackett@shu.ac.uk

Introduction

Standing on the forest path, amidst the frosty trees, one-year-old Alex runs his hand in an elegant sweep over a snow-covered fallen tree trunk. He brushes some of the snow down onto the floor, coating his woollen gloves in snow in the process.

What does it mean to bring very young children into conversations about climate change? *Voices of the Future* was a three-year, UK-based, multi-site project, aiming to investigate the opportunities and dis/benefits of treescapes through participatory research with children and young people. It received significant cross-disciplinary research funding from UK Research Councils, in a context of increasingly urgent calls for ‘solutions’ to climate collapse (preferably that, through technological or infrastructural interventions, do not involve the west compromising their lifestyle or economic growth). Within this ‘urgent’ context, *Voices of the Future* centred the perspectives of children and young people through a coproduced and participatory approach. This paper focuses on a strand of the project that explored playing and making in and with treescapes, with children aged under 5 years and their grownups. We interrogate what it looks like to do coproduced participatory research about sustainable futures with young children and some of the tensions that this kind of work brings into sharper relief.

We identify, find and hold in productive tension, the space between two possible responses to climate change emerging across a range of disciplines (acknowledging that our framing of each belies their complex articulation by diverse scholars and practitioners). On one hand, (perhaps) dominant responses to climate change and our earthly predicament are characterised by a sense of urgency (and emergency), of the need for large-scale action, via policies and technocratic solutions, perhaps at a global scale. Within this perspective, the voices of children and young people are sometimes deployed to reinforce the overarching call for action, as well symbolising of futurity – whether as a source of hope or given fears about what kind of world the ‘next generation’ will live with. On the other hand, (perhaps) more ‘minor’ responses to climate change (Osgood et al., 2023; Taylor, 2020), grounded in new materialist and posthuman framings of education and childhood, start with the small-scale, child-led unfolding of participatory methodologies, and valorise the telling of small stories, of playfulness, of pause and of slowness. Whilst these approaches are not necessarily opposed, they often feel in tension: they speak different languages; they operate at different scales; they have a different feel; they work through different frames. Our wager is that those who prefer the larger-scale, technocentric response to environmental change might find smaller-scale, for-the-moment, minor responses frustrating, inadequate or, even, somehow escapist, given ‘urgency’ and ‘the scale of the problem’. Both ‘camps’ can perhaps agree on the importance of young people’s engagement in climate change. Thus, in this paper we attempt to look between, across and beyond these two responses, interrogating the assumptions and commitments underpinning them, and asking how looking between and across might offer ways forward. Our discussion focuses – and sometimes does not focus – on whether and how children and trees relate, whilst calling into question the necessity and nature of that relating.

In finding, holding and developing the space between differing responses to childhood and climate change, our novel contribution is to posit the importance of praxes of *fracturing*, going *off-task* and moving the subjects of our paper – children and trees – *in and out of focus*. These praxes enable us to open out the space between the two responses outlined above, to imagine otherwise and ask different kinds of questions, but with an eye on the importance of practical action. In closing, we offer five working principles, which have emerged from and influenced our work with children; these principles that may afford (hopeful, even pragmatic) ways of doing and thinking the world differently.

Fractured storytelling

Thinking with our fieldwork with children and trees, we explore the potential of ‘fractured’ forms of ‘off task’ storytelling and non-representational modes of responding to place to enact alternative possibilities for human-planetary relations. We deploy the term ‘fractured’ for several reasons. Firstly, we sought – and seek – both a practice and a metaphor for disrupting the neat, linear, romanticised, essentialising and often uncritically hopeful ways in which children and natures are conflated in many Western contexts (Ladru et al., 2024; Nxumalo, 2016). Children’s engagements with nature may be partial, incoherent, ephemeral, non-teleological and have no extrinsic ‘value’. They may be hard to represent through pedagogic or other frames of reference. And, they may not add up to or complete a picture of an (ideal) child, immersed in nature, acquiring the ‘right’ knowledges about trees and the environment that will enable them to become environmentally responsible agents in the future.

Secondly, then, we do not seek to burst, but to fracture, the logics of the ‘bubble’ that is often conceptualised around early childhood education, where children are envisaged as vulnerable (Nimmo, 2008), apolitical (Millei and Kallio, 2018), primarily ‘developing’ (Hackett, 2022) and extractable from their everyday lives in communities. Whilst well-intentioned – signalling a commitment to creating a ‘world’ that is safe, playful and directed – there is a danger that bubbles perpetuate assumptions about early childhood that should be more fundamentally questioned. We note parallel critiques around the question of climate change itself, which is sometimes bracketed off from its geopolitical histories, rather than being understood in the context of overlapping crises including social injustice, (post) colonialism and COVID-19 (Sultana, 2021). Our proposition is that a practice of ‘fracturing’ may enable us to ask questions that are perhaps not routinely asked within the bubble.

Consequently, and thirdly, fracturing provides us with a way of thinking and writing about children’s (non-)encounters with trees. Akin to, although different from, ‘composting’ stories (Hohti and Tammi, 2023), it enables a practice of presenting (probably) incommensurable stories together – a kind of juxtaposition (Kraftl, 2020) that attends to multiple ‘small stories’ (Taylor, 2020). But we also seek to instil a further layer of critique here, since there is a danger that we fall into a post-humanist, self-referential ‘bubble’ of our own; we ask what might come ‘next’, after telling such stories? What is our collective responsibility in responding to them? Finally, then, and building on the ways in which fracturing might be a form of affirmative critique that is generative, hopeful and inclusive (Zembylas, 2022), fracturing also requires attunement not only to the pieces that are fractured but the cracks themselves.

Truth, climate collapse and coproduced research

Voices of the Future brought together environmental scientists, social scientists and humanities scholars, aiming to develop a relational understanding of how children and young people related to trees that could be translated into a new language for how children experience treescapes.¹ The project involved holding in tension a commitment to honouring multiple ways of knowing and the perspectives of others, including children, with the data that scientists regularly work with – data that clearly spell disaster for our future global environment. These kinds of data are already under attack – for example from the political far right, who seek to discredit or underplay the seriousness of climate collapse. For these reasons, ‘truth’ takes on particular significance in research concerned with climate futures (Rautio et al., 2022). This is a disorientating but potentially necessary space; as de Freitas and Truman (2021) argue in their discussion of the shifting relationships between science, nature and human sense-making in ‘the post-truth’ era,

probing the fissures between fact and fiction might be the very thing we need to do more carefully, under these complex onto-epistemological conditions’ (p.524)

How could a practice of fracturing enable a commitment to multiple ways of knowing without necessarily effacing any of them, whilst opening out cracks for (affirmative) critique?

(Under)theorising participation, voice and early childhood

‘Voice’, ‘participation’ and ‘coproduction’ are often taken up to foreground the experiences of research participants, whilst being simultaneously critiqued for their frequent failure to address power imbalances (Jackson and Mazzei, 2009; Marker, 2009; Rautio et al., 2022; Spyrou, 2016). As Gallagher (2020) argues, when under-theorised, voice risks becoming metaphor for participants’ authentic truths and, we would add, neat ciphers for the creation of self-referential ‘bubbles’ within which certain kinds of knowledge, feelings and bodily habits are ‘acceptable’ (Hackett et al, 2024). As Rautio et al. (2022) write, often participants in participatory research need both the ability and the compliance to work within adult-determined research frameworks. The conflation of voice with authenticity means that certain kinds of responses become more ‘useful’ to a researcher, where they offer readily interpretable meanings, address research questions directly or support the researcher’s own values (Millei and Rautio, 2017; Yoon and Templeton, 2019). Whilst in *Voices of the Future*, we wanted to hear the voices of children, this desire is complicated by the layers of expectation that we (adults) place on childhood itself; what we are able to hear is filtered through the lens of our own investments, fears and hopes. We have pointed out elsewhere (Hackett et al, 2024) that childhood research is peppered with examples of children who are engaged, enthusiastic, creative, delightful and endorse the researchers’ own values and perspectives. As Ormalm et al. (2022) argue, if we are to include all children ‘in the concept of the child’ (p. 71), we must resist exclusionary or hierarchically arranged concepts of childhood, which have historically worked to excluded children of colour, working class children and childhood in the global south, amongst others (Canella and Viruru, 2012; Webster, 2021). Indeed, as Lee (2013) writes,

Life can be uncomfortable for children who do not live up to the hopes invested in them or whose existence fails to console the adults around them. (p. 5)

Infants and young children, in particular, have different modes of participating in the world (Holt and Philo, 2022) and in research (Boycott-Garnett, 2023; Boye Koch, 2021). An emerging body of work from social studies, childhood studies and children’s geographies focuses on very young children (Ormalm, 2020; Hultgren and Johansson, 2018; Sumison et al., 2018; Tesar et al., 2021), often advocating for scholars to ‘take seriously’ or ‘pay attention’ to what the youngest participants have to contribute. Participation of young children in research turns our notions of voice, participation and coproduction on their head, distorting and fracturing them so that they either appear incomprehensible, and/or have the potential to expose the distortions of our own taken-for-granted practices and systems (Holloway, 2010; Ormalm et al., 2022). Within a wider call to add nuance to the theorisation of participation and voice in childhood research (Gallagher, 2020; Rautio et al., 2022), ethnographic research with the youngest children seems a particularly fruitful space to respond to this call.

Coproduction with young children and trees

As a starting point for our work with children, trees and voice, we focussed on the question: *what can happen between children and trees?* As a team within the wider *Voices of the Future* project, we brought diverse disciplinary perspectives; Abi is a community ethnographer with focus on young children, and Peter is a children’s geographer. Steve was artist in residence during the project, although he has also completed a PhD on the role of artists in community research. Jan as co-founder of Outdoors Thinking, brought important expertise in the practice of working with

young children outdoors, however she has also published extensively on the topic and is an honorary Professor of Practice. Abi acted as lead contact for fieldwork and attended every session, whilst Peter, Steve and Jan attended as many as possible. At each session, we all made fieldnotes, which acted as our primary data set, supplemented by photographs and small video snippets.

We worked with families across an urban community in northern England, primarily in collaboration with the local authority, which runs weekly playgroups for under-fives and their grown-ups, as well as special events in the school holidays for families with children of all ages. To broaden the range of families, we also worked with other community partners, including community-run playgroups and the local Wildlife Trust. Over a total of 18 months of fieldwork, we worked with 21 children and their families, ranging in age from 1 to 12 years old.² The overall aim of the sessions was to create opportunities for families and children to playfully be in the vicinity of trees – including through scavenger hunts, teddy bears picnics, art activities and woodland walks. Table 1 summarises the fieldwork and the different groups we worked with.

Table 1. Summary of the fieldwork from this strand of Voices of the Future.

Time	Small woodland and park space with a playground	Large urban park near the centre of town	Wider engagement
	<i>In partnership with a local authority run playgroup</i>	<i>In partnership with a local authority run playgroup</i>	<i>In partnership with a range of community organisations, community run playgroup and the wildlife trust.</i>
Spring/summer 2022	A summer picnic, scavenger hunt and walk in the woodland local to the playgroup venue.		A range of pop up events where children were invited to gather 'autumn treasure' (fallen leaves, twigs, seeds) and craft with them. Various locations including an indoor playgroup, local parks and greenspaces.
Autumn 2022	Returned to the same woodland for an autumn 'lamplit' walk where families made small lanterns and carried them through the woods.		
Winter 2022	At the same woodland, we ran a Winter Wonderland walk, including a treasure trail, hot chocolate and a gift for every child.		
Spring 2023	Spring woodland walk in the same woods.		
Summer 2023	Final summer walk and celebration picnic in the wood.	4 regular sessions in the park over the summer holidays. These were arts sessions, led by Steve, which culminated in a celebration event with outdoor exhibition of the work the families produced. Activities included clay, mark making with crayons and charcoal, scavenger hunt, music and gathering natural materials.	

We wanted to make the activities as open ended as possible, in order to create space for different kinds of reactions, responses and ways of being. Space for new-ness or difference felt important, partly because of the ongoing tendency to romanticise the relationship between children and nature (Giorza, 2021; Nxumalo and Ross, 2019). The ways that children are imagined in nature or outdoor play tend to be dominated by a white, middle-class lens, in which the ‘innocence of childhood’ and ‘naturalness’ of certain forms of play dominate the early years research-practice ‘bubble’. As Nxumalo (2016) writes,

colonialisms do much of their work through erasures, displacements and exclusions that become normalized in everyday encounters. with outdoor places and spaces, eating practices, encounters with plants and animal life, and everyday play with objects and materials. (p.642)

At the same time, we knew from prior experience that a completely ‘blank slate’ with no guidance for families around how to engage can also be exclusionary (Hackett et al, 2018). Therefore, we aimed to strike a balance between open-ness and structuring ways in, by offering optional open-ended starting points such as a paper bag with the invitation to gather ‘woodland treasures’, clay or large sheets of paper with an invitation to mark-make, or ‘scavenger hunts’ that involved searching for cuddly animals hidden in the trees.

Being ‘off-task’ with trees

Offering open-ended propositions and being led by children, we found ourselves often engaged in activities that seemingly had little to do with trees or climate change. For example, hanging out in the park with families and children of different ages, the action might move across the grass, amongst the toys and art materials, around a trunk, focus on leaves or seeds, grab a branch, dump the branch and run back to the picnic blankets. As we took a woodland walk, we might gaze up at the trees, admire a friend’s Paw Patrol wellies, and discuss what family film to watch together later. If we offered art activities, we might draw a tree, but then get an urge to write our name, or doodle. Vignettes 1 and 2, below, provide examples of how things tended to unfold.

Vignette 1

Steve brings large sheets of paper and chunky crayons to the session, One minute the children are drawing trees on the paper and making leaf rubbings, the next they are pushing a car across the paper. Abi draws a line with the wax crayon for the car to follow, but instead the curving around line seems to suggest cosy snuggles in the warm sun to the little girl, who curls up in a ball on the floor inside the crayon lines, then demands Abi draws her a pillow. She draws her a bear, she wants a blanket – how to draw that when it should be on top of her? Abi places a leaf as a blanket, but she flicks it away. It’s a bit small (for a blanket) Abi says. It’s big (for a leaf) the little girl replies. Later, a couple of times she returns to this spot, and curls up for a sunshine nap.

Vignette 2

This week Steve has brought clay to the park for our session. Sitting under the trees, the girls make pancakes, sculpted figures, a face with a big stick for a nose, call it Pinocchio. They tease each other – ‘yours looks like a skull! Where’s its hair?’ We suggest they could collect natural materials to make hair, but the suggestion isn’t taken up. Trees and nature are curiously absent, even though we have laid a mat on the grass between large old trees; we plunge into conversations about school what years they are going into, who is older, who has siblings, and whether school time or holiday time is better. The girls tease Steve and Peter trying to guess their ages; they propose Steve is 106 (revised downwards to 94) and Peter was 74.

What, then, do we do with this kind of ‘off-topic’ data? Like the tension between valuing children’s voices and the irrefutability of the scientific data on climate collapse discussed above, there seems a difficult-to-resolve tension between an approach to participative research led by the interests of the child, grounded in slowness, playfulness and inevitable ‘off-task-ness’, and the urgency of climate collapse and the need to focus on finding actionable solutions. ‘*We need a strategy for improved carbon sequestration in the UK, and we cannot wait whilst children take sunshine naps!*’¹³ Welcoming these moments of deep engagement, creativity and energy that were not focussed on trees, nature or climate change, then disregarding them during data analysis, risks over-representing a child or mode of participatory research in which participants are enduringly engaged and remain on task (Hackett et al, 2024). Narrating ‘off task’ moments, such as those in vignettes one and two, fractures a view of child and nature as naturally compatible and enduringly engaged.

With the metaphor of fracturing in mind, we see these moments as *fractures in focus* rather than forms of ‘decentring’ or ‘going beyond’ that have become so popular in post-humanist-inspired childhood studies, and which in turn have been critiqued by (amongst others) critical race theorists. Rather, as Kraftl (2020) argues, with reference to the ‘pull focus’ (a camera trick used by filmmakers which gives a rather vertiginous sense of zooming in and out at the same time), our ‘objects’ of interest may move in and out of focus, simultaneously. Hence, both trees and children – whether in relation or not – (dis)appear in the above examples, only to (re)appear in sometimes surprising ways – as barely-articulated memories or scribbled names on artwork. Rushing into view – in the oft-ignored cracks of research and practice – these fragments might not mean or matter much, but might also be surprising, affecting, or, even, pre-figure capacities for thinking or doing differently.

‘Pull-focus’ under tree branches

Vignette 3

Steve lies under a tree in the park, filming the branches and leaves moving in the wind. Two year old M stands above Steve in consternation, seeming interested in both a grown up lying on the ground and Steve’s camera. Abi lies down too and watches the beauty of the leaves and ribbons moving against the blue sky. At her encouragement, M lies down too. ‘Wow!’ he declares loudly. We all watch for some minutes, M does a happy babbling commentary, very musical with exclamations and babbling mixed in between. ‘Where zi going? Iz going up!’ he cries with an excited upwards inflection that mirrors the ribbons being whipped upwards in the wind. His giggles mirror the wiggling motion of the ribbons dancing about in the breeze. Within M’s vocalisations, a narrative seemed to emerge of the ribbons running away and gone back. ‘Where zi gone? Wah iz come back!! One has run away’. But the narrative seems tentative and emergent, entangled with the movement of the branches and ribbons in the wind, rather than ‘about’ them. We want to lie there for much longer than we do.

This moment under the trees felt magical, as all three of our human bodies were absorbed in something bigger, moving and sounding in response to the sky, wind, tree branches and flapping ribbons (Hackett and Somerville, 2017), which children had tied to the tree branches. M’s vocalising seemed to mirror the more-than-human movement of the wind and flapping ribbons. It is difficult to transcribe M’s words and babbling; a story about the ribbons running away and coming back seems present but elusive, and not the whole story. As in the previous section, where trees seemed to come in and out of focus in the children’s playing and making, a narrative about the meaning of the trees and the wind seemed to move in and out of focus. Such storytelling often follows a logic specific to that place and moment, rather than offer generalisable ‘truths’ about why trees are meaningful to children. This singularity of logic also seems to emerge in vignette 4, which took place not in a park, but inside a church hall during a playgroup session.

Vignette 4

On a rainy Thursday morning, Abi spreads craft paper, coloured card and pots of pva glue out across the long table at playgroup. In a location without a tree or green space nearby, the families at this playgroup were instead invited to gather fallen leaves, twigs and any other nature materials they like during the week and bring them today for craft time. The families arrive in a rainstorm and pile soggy paper bags of autumn treasures onto the trestle table. Children are invited to stick their natural materials onto paper and card to create pictures. One small boy, 18 months old, holds a large smooth pinecone in his hand for the whole time he is glueing. This means he has to make his picture with only one hand. He stretches out his clenched hands several times as if to show Abi what he is holding. Once he has completed his picture, he sits and picks the remaining pine needles from the base of the pine cone, one by one. When he has removed them all, he shows Abi and says, 'I did it'.

Why did this little boy treasure this pinecone, at least during the craft activity? Social science has a tendency to ask this kind of question: to want to understand what motivates participants and explain their viewpoint. This tension around wanting to identify what participants 'really' mean (and what that 'means' for our research and the role of trees in climate change education) is brought into sharp relief during moments like vignette 4. Whilst, as Rautio (2013) has pointed out, if we ask 'why', it may well be that '[e]xplanations would surely surface and lend themselves to be neatly categorized' (p.395), we may also be missing the complete picture or possibilities for imagining otherwise. Researching with the youngest children meant that verbal probing for motivations or reflections on 'why' was not practical (as it might have been with slightly older children). As we noted earlier, younger children's modes of engaging with research and researchers (often through non-verbal modes, and according to their own logics) make this an important space to unsettle assumptions about voice and participation. Ormalm et al. (2022) warn that if research over-focusses on ideas that are easily articulated in spoken words, some 'children risk being obscured by the verbally expressive child' (p. 71). We agree, but add that certain modes of being in the world also risk being obscured by over-reliance on verbal expression and a tendency (of adults in western industrialized societies) to name and narrate the world (Abram, 1996; Viruru, 2001). We see lying beneath the tree branches (vignette 3) and deep attachment to a pinecone (vignette 4) as two such examples of easily obscured ways of being in the world, which were surfaced through a praxis of fracturing.

Discussion

The moments of drawing, playing, chatting and lying underneath trees we have described from our fieldwork are difficult to narrate: they are fragments and fragmentary, fractures and fracturing. As stories, they offer a kind of incommensurability, requiring us to respect what we encounter in the middle of a complex situation, rather than offering the ability to stand back and survey all the component parts or extract meaning. Yet, this (also) feels like an (un)productive response to some of the tensions we have highlighted in this paper around voice, participation and coproduction in research, and the 'urgency' of the climate crisis.

We propose that moments in which trees move in and out of 'focus' (vignettes 1 and 2), and moments in which inchoate, fractured stories about trees are articulated via the body being in place (vignettes 3 and 4), help us to fracture our assumptions and ask useful questions about the status of childhood, futures, the human and how we imagine human-planetary relations. This brings us to the question of how to *respond* – particularly in the space between large-scale, techno-centric 'emergency' strategies and the telling of small-scale stories with children. Perhaps, as some human geographers have begun to observe when reflecting on the anxieties and traumas evoked by the strange and unanticipated effects of climate change (such as changing seasons), it is sometimes better *not* to try to respond or to offer a resolution (Dawney and Jellis, 2024; Turnbull et al., 2022)

Perhaps, though, as Bennett (2010) argues, we must not merely commit to staying with the trouble or telling stories but to picking up the fragments to (re)imagine and even make the world anew. Perhaps, despite ourselves and our bubbles, we need to ask: What Next? What is Not-Yet and Still To Come? (Siebers, 2013). As such, moving children and trees in and out of focus in a way that seems fragmentary and fractured, enables us to address these questions. In that spirit, we propose five working principles for doing so, which may act as guidance for both future scholarship and practice with children and trees (and more besides).⁴

Five working principles for coproducing fractured stories with children and trees

1. Hold the space

Spaces in which fractured stories about children and trees were able to emerge often involved us, as grown ups, standing back and allowing time for things to unfold. We came to understand this as *holding open a space* for children, underpinned by a respect for what is always-already there. When adults let go of control, and of our own ideas about what ideal child/tree encounters should involve, a fracturing of concretised ideas about children and nature becomes possible. We see holding the space, then, as an ethical move to resist *other* ways of being with trees being sidelined or erased. These ways might include a seeming disinterest in trees (vignette one), the mess and irrelevance of everyday life seeping in (vignette two), or unanticipated and difficult-to-narrate engagements between children and trees springing up (vignettes three and four).

2. Deepen kinship relations with trees

Environment education, we argue, should be about learning *with* the more-than-human world (rather than *in, for* or *about* 'nature'). Viewing plants, trees, rocks and land as inert backdrops to human action is damaging, and a ruse that can only be maintained through a hegemonically anthropocentric frame (Jackson, 2020). Learning *with* might begin with bodily experiences that humans and more-than-humans create and share together. We find one possible example of this in vignette 1, as a little girl lies on the 'bed' we draw on sheets of paper, taking a 'sunshine nap'. Pretending to nap might be viewed, within a traditional framing of early education, as an inert activity, and one that is 'off-task' in relation to the question of why trees are meaningful to children. However, at a biosocial level, a great deal is happening when we lie in the sunshine; our body absorbs electromagnetic rays, just as plants do when they sequester carbon. From this perspective, sunshine napping offers a deep bodily knowing about energy transfer, in a way that reveals the kinship ties and resonances between humans and plants/ trees. We did not learn 'about' trees, but had an experience 'with' them, that we would describe as kinship.

3. Know through the body

Through this research, we are interested in how bodies (human and more than human) feel in places, and the more-than-human dialogue that becomes possible in-between representational and non-representational modes of being. This was expressed, for example, in the experience Steve, Abi and little M had beneath swaying tree branches in vignette 3; difficult to narrate and to articulate what felt 'magic', words were not foregrounded as we allowed the treescape to act on our bodies. We have proposed the term 'fractured' as a way of describing these in-between stories; stories that rupture the bubble that describes thinking and/or (early-years) learning as located in

individuated brains, separable from each other and from the more-than-human. As extensive scholarship has demonstrated, imaginaries of the mind as locus of thinking (Lind, 2001), and language as the sole property of human thinkers (Abram, 1996), have culturally and historically specific origins, and need to be questioned. Nevertheless, we see this assumption in dominant ideas from environmental education that feelings of care and love for the natural world depend on children having knowledge about why nature ‘helps’ us. The stories we offer in this paper create an invitation for environmental education to consider a different model of knowing, as bodily and entangled.

4. *Learn from children, learn from trees*

Our research is grounded both in a valuing of children’s experiential knowledge of treescapes and an acknowledgement that deep forms of knowing sit outside of human parameters, including within the land and the trees. These are forms of knowledge that are partially or completely inaccessible to humans. We see *vulnerability*, rather than mastery, as a generative state from which to encounter such knowledges, ‘probing the fissures’ (de Freitas and Truman, 2021: 524) or fractures between different kinds of truth and knowledge. This is a guiding principle that helps us to navigate the tensions around truth, knowledge and climate change outlined at the start of the paper. Meanwhile, this principle reframes what it means to coproduce knowledge with children – a shift from aiming to gather explicit subject-positions concerning what children *really* think, to a fracturing praxis that aims to open up to the disorientation that comes with not always receiving an answer and being playfully led towards driving toy cars, building imaginary bedrooms (vignette 1) and guessing fantastical ages (vignette 2).

5. *Language comes from bodies and places*

Our project was called *Voices of the Future* and an understanding of language as bodily and material points to the need for a broader conceptualisation of ‘children’s voice’ within environmental research. Certain views of voice, participation and coproduction rely on the idea of a bounded and singular speaking subject, who ‘knows who she is, says what she means and means what she says’ (MacLure, 2009: 104). As material and bodily, there is always something within language that exceeds representation or meaning, and resists interpretation (Hackett et al, 2021; MacLure, 2013). How to narrate – or story – nonrepresentational forms of expression, especially as adults try to do so when working with young children, is an ongoing challenge. The vignettes in this article, and these five working principles, offer and exemplify the notion of ‘fracturing’ as a way of attending to and amplifying nonrepresentational languaging that may in turn pose new questions or glimpses of (alternative) futures when it comes to children and trees.

Concluding comments

We framed our research during this strand of the project by asking ‘what can happen between children and trees?’. The more-than-representational, bodily, vulnerable kinship relations we have described as unfolding between children and trees sit at the heart of the potential for research of this kind to fracture hegemonic views of innocent and generalisable childhood/nature relations, of early childhood as a rarified apolitical space, or of climate change as a neatly bounded issue that can be bracketed off from the complexity of social and political life. Whilst we refrain from offering a generalisable formula for how to do this kind of research, it seemed that holding open a space for

off-task-ness, and the resultant ways in which trees and children came in-and-out of focus in the research, was important for surfacing this kind of unfolding via fractured stories. It suggests that as social researchers and educators, we should be more suspicious of only attending to legible, neat, representable ways that children's diffuse engagements with (for instance) trees are reduced to logics of 'climate change education'. We argue for the importance of research around childhood and environmental sustainability that does not privilege technocratic solutions, but offers alternative ways in. We are inspired by Millei and Lappalainen's (2023) analysis of earthly politics in children's drawings, Hohti and Tammi's (2023) description of small stories drawn from everyday moments, and Hickey-Mooney et al. (2021), who demonstrate how arts-based inquiry might reframe cultural understandings of carbon. Hence, we ask: how can fracturing, and attentiveness to feelings, movements, utterances or actions that cannot be circumscribed within dominant environmental frames offer a methodology for witnessing alternative ways of relating to place and imagining environmental futures?

Understanding how childhood has been positioned as a resource for salvation means we need to tread carefully when considering children's voice and participation in conversations about environmental sustainability. Childhood has become a site where notions of salvation from climate collapse have solidified. Whilst the innocence of childhood has frequently been used as an appeal for greater humanity and social justice, Sheldon (2016: 2) notes a 'slide from the child who needs saving to the child who saves'. In other words, 'the child as resource' to secure the future of the human species. It is this concretised notion of the child that we seek, if not to dismantle, then to fracture.

Fracturing does not necessarily mean the dismantling of a whole (a world, bubble or practice). Rather, much like a broken mirror or shattered car windscreen, the rearranged pieces and, especially the cracks, offer a different view of things – diffracted, multidimensional and multiplying, reconfigured. In the fracturing, the cracks play a perhaps overlooked role – void or negative spaces that may, of course mark sadness, destruction, darkness, stillness, refusal, non-relation and the limits of affirmation (Dekeyser et al., 2022). Indeed, we do not assume that those phenomena lead anywhere: perhaps they are (una)void(able). In other cases, however, we want to ask whether there might be glimmers or fragments of light – whether the cracks offer opportunities to rearrange our horizon. To look *at* the cracks is to question the logics of established (colonial, capitalist, neoliberal) ways of thinking and doing, between the two conventional ways of (not) seeing children and the urgency of environmental learning and action with which we began this article. These cracks are spaces from which revolutionary or quietly activist ways of doing the world otherwise might emerge (Holloway, 2010). In other words, we ask – specifically through the five working principles outlined above – whether fracturing operates not only critically but affirmatively and generatively, in the tentative but necessarily pragmatic opening-out of other ways of hoping for/with children and trees (Giorza, 2021; Kraftl, 2015).

Acknowledgements

We would like to thank the children and families who participated in the research. In addition, we would like to extend our thanks and gratitude to the wider *Voices of the Future* research team.

Funding

The author(s) disclosed receipt of the following financial support for the research, authorship and/or publication of this article: This work was supported by the Natural Environment Research Council [grant number NE/V021370/1].

Ethical approval and informed consent statements

The project has been ethically reviewed and received approval from Manchester Metropolitan University.

ORCID iD

Abigail Hackett  <https://orcid.org/0000-0003-4332-8594>

Notes

1. In the programme, a treescape is a landscape where trees and/or woods and forests play a significant role.
2. Although our original focus was children aged under 5 years, the families we worked with requested school holiday sessions that they would be able to bring their whole family to, so we responded accordingly.
3. Written originally to summarise the tension between children's playful meandering and the desire for task-orientated solutions, we noticed a new connection within this sentence whilst refining the paper. What happens when we nap in the hot sun? Our bodies absorb electro-magnetic rays of sunshine, in a process that mirrors the photosynthesis and carbon sequestration processes of plants and trees. We return to this insight later.
4. These working principles and their application are also explored in a resource we have created for educators, which is freely available to download on our website <https://treescapes-voices.mmu.ac.uk/>.

References

- Abram D (1996) *The Spell of the Sensuous*. New York, NY: Vintage Books.
- Bennett J (2010) *Vibrant Matter. A Political Ecology of Things*. Durham: Duke University Press.
- Boycott-Garnet R (2023) Zooming with babies: Troubling a shared present. *Journal of Childhood Studies* 48: 126–132.
- Boye Koch A (2021) Children as participants in research. Playful interactions and negotiation of researcher–child relationships. *Early Years* 41(4): 381–395.
- Canella GS and Viruru R (2012) *Childhood and Postcolonization. Power, Education and Contemporary Practice*. London: Routledge.
- Dawney L and Jellis T (2024) Endurance, exhaustion and the lure of redemption. *Cultural Geographies* 31(2): 153–166.
- de Freitas E and Truman S (2021) New empiricisms in the Anthropocene: Thinking with speculative fiction about science and social inquiry. *Qualitative Inquiry* 27(5): 522–533.
- Dekeyser T, Secor A, Rose M, et al. (2022) Negativity: Space, politics and affects. *Cultural Geographies* 29(1): 5–21.
- Gallagher M (2020) Voice audio methods. *Qualitative Research* 20(4): 449–464.
- Giorza T (2021) The art of learning with trees. In: Giorza T (ed.) *Learning with Damaged Colonial Places. Posthumanist Pedagogies from a Joburg Preschool*. Cham: Springer, pp.135–150.
- Hackett, A. (2022). Unruly Edges: Toddler Literacies of the Capitalocene. *Global Studies of Childhood*, 12(3), 263–276.
- Hackett, A., Hall, M., Kraftl, P. and Pahl, K. (2024). Giving up on the Good Research Child, *Qualitative Research*.
- Hackett, A., MacLure, M. and MacMahon, S. (2021). Reconceptualising early language development: matter, sensation and the more-than-human. *Discourse: Studies in the Cultural Politics of Education*, 42(6), 913–929.
- Hackett, A., Procter, L. and Kummerfeld, R. (2018). Exploring Abstract, Physical, Social and Embodied Space: developing an approach for analysing museum spaces for young children. *Children's Geographies*, 16(5), 489–502.
- Hackett, A. and Somerville, M. (2017). Posthuman literacies: young children moving in time, place and more-than-human worlds. *Journal of Early Childhood Literacy*, 17(3), 374–391.

- Hickey-Moody A, Cutter-MacKenzie A, Rousell D, et al. (2021) Children's carbon cultures. *Cultural Studies* ↔ *Critical Methodologies* 21(3): 214–224.
- Hohti R and Tammi T (2023) Composting storytelling: An approach for critical (multispecies) ethnography. *Qualitative Inquiry* 30(7): 595–606.
- Holloway J (2010) *Crack Capitalism*. London: Pluto Press.
- Holt L and Philo C (2022) Tiny human geographers: Babies and toddlers as non-representational and barely human life? *Children's Geographies* 21(5): 819–831.
- Hultgren F and Johansson B (2019) Including babies and toddlers: A new model of participation. *Children's Geographies* 17(4): 375–387.
- Jackson AY and Mazzei LA (eds) (2009) *Voice in Qualitative Inquiry. Challenging Conventional, Interpretative and Critical Conceptions in Qualitative Research*. London: Routledge.
- Jackson ZI (2020) *Becoming Human. Matter and Meaning in an AntiBlack World*. New York, NY: New York University Press.
- Kraftl, P. (2015). Alter-childhoods: Biopolitics and childhoods in alternative education spaces. *Annals of the Association of American Geographers*, 105(1), 219–237.
- Kraftl, P. (2020). *After childhood: Re-thinking environment, materiality and media in children's lives*. Routledge.
- Ladru DE, Millei Z, Andersen CA, et al. (2024) Teaching nature and nation in the Swedish mobile preschool. *Childhood* 31(1): 13–29.
- Lee N (2013) *Childhood and Biopolitics: Climate Change, Life Processes and Human Futures*. London: Palgrave Macmillan UK.
- Lind RE (2001) Historical origins of the modern mind/body split. *The Journal of Mind and Behavior* 22(1): 23–40.
- MacLure M (2009) Broken voices, dirty words: On the productive insufficiency of voice. In: Jackson A and Mazzei L (eds) *Voice in Qualitative Inquiry: Challenging Conventional, Interpretive, and Critical Conceptions in Qualitative Research*. London: Routledge, pp.97–113.
- MacLure M (2013) Researching without representation? Language and materiality in post-qualitative methodology. *International Journal of Qualitative Studies in Education* 26(6): 658–667.
- Marker M (2009) Indigenous voice, community, and epistemic violence The what ethnographer's 'interests' and 'interests' the ethnographer. In: Jackson A and Mazzei L (eds) *Voice in Qualitative Inquiry: Challenging Conventional, Interpretive, and Critical Conceptions in Qualitative Research*. London: Routledge, pp.27–43.
- Millei Z and Kallio KP (2018) Recognizing politics in the nursery: Early childhood education institutions as sites of mundane politics. *Contemporary Issues in Early Childhood* 19(1): 31–47.
- Millei Z and Lappalainen S (2023) Towards Earthly politics in education: Going beyond national, global and planetary environmental imaginaries. *European Educational Research Journal* 22(5): 701–717.
- Millei Z and Rautio P (2017) 'Overspills' of research with children: An argument for slow research. *Children's Geographies* 15(4): 466–477.
- Nimmo J (2008) Young children's access to *real life*: An examination of the growing boundaries between children in child care and adults in the community. *Contemporary Issues in Early Childhood* 9(1): 3–13.
- Nxumalo F (2016) Towards 'refiguring presences' as an anti-colonial orientation to research in early childhood studies. *International Journal of Qualitative Studies in Education* 29(5): 640–654.
- Nxumalo F and Ross KM (2019) Envisioning Black space in environmental education for young children. *Race Ethnicity and Education* 22(4): 502–524.
- Orrmalm A (2020) Culture by babies: Imagining everyday material culture through babies' engagements with socks. *Childhood* 27(1): 93–105.
- Orrmalm A, Annerback J and Sparman A (2022) Listening by 'staying with' the absent child. *Barn. Forskning on Barn og Narndom I Norden* 40(3): 70–84.
- Osgood J, Axelsson S, Cavaliero T, et al. (2023) Aboreal methodologies: Getting lost to explore the potential of the non-innocence of 'nature'. *Occasional Papers Series* 50: 113–129.
- Rautio P (2013) Children who carry stones in their pockets: On autotelic material practices in everyday life. *Children's Geographies* 11(4): 394–408.

- Rautio P, Tammi T, Aivelo T, et al. (2022) “For whom? By whom?”: Critical perspectives of participation in ecological citizen science. *Cultural Studies of Science Education* 17: 765–793.
- Sheldon R (2016) *The Child to Come: Life After the Human Catastrophe*. Minneapolis, MN: University of Minnesota Press.
- Siebers J (2013) Ernst Bloch’s dialectical anthropology. In: Thompson P and Žižek S (eds) *The Privatization of Hope: Ernst Bloch and the Future of Utopia*. Durham, NC and London: Duke University Press, pp.61–81.
- Spyrou S (2016) Researching children’s silences: Exploring the fullness of voice in childhood research. *Childhood* 23(1): 7–21.
- Sumison J, Harrison LJ and Stapleton M (2018) Spatial perspectives on babies’ ways of belonging in infant early childhood education and care. *Journal of Pedagogy* 9(1): 109–131.
- Sultana F (2021) Climate change, COVID-19, and the co-production of injustices: A feminist reading of overlapping crises. *Social and Cultural Geography* 22(4): 447–460.
- Taylor A (2020) Countering the conceits of the Anthropos: Scaling down and researching with minor players. *Discourse: Studies in the Cultural Politics of Education* 41(3): 340–358.
- Tesar M, Duhn I, Nordstrom SN, et al. (2021) Infantmethodologies. *Educational Philosophy and Theory*.
- Turnbull J, Platt B and Searle A (2022) For a new weird geography. *Progress in Human Geography* 46(5): 1207–1231.
- Viruru R (2001) Colonized through language: The case of early childhood education. *Contemporary Issues in Early Childhood* 2(1): 31–47.
- Webster CL (2021) *Beyond the Boundaries of Childhood*. Chapel Hill: University of North Carolina Press.
- Yoon HS and Templeton TN (2019) The practice of listening to children: The challenges of hearing children out in an adult-regulated world. *Harvard Educational Review* 89(1): 55–84.
- Zembylas M (2022) Affirmative critique as a practice of responding to the impasse between post-truth and negative critique: Pedagogical implications for schools. *Critical Studies in Education* 63(2): 229–244.

Author biographies

Abigail Hackett is a Professor of Childhood and Education at the Sheffield Institute of Education, Sheffield Hallam University. She is interested in the role of place, materiality and bodies in young children’s lives. She researches mostly in community spaces, in collaboration with children and families, employing ethnographic and post-qualitative methods. Her book *More-Than-Human Literacies in Early Childhood*, was published in 2021.

Peter Kraftl is a Professor of Human Geography at the University of Birmingham, UK. He specialises in research about children and young people’s engagement with, feelings about, and agency in their environments. His main substantive foci are: children’s participation in the design of ‘child-friendly’, sustainable urban environments; young people’s interaction with environmental change and pollution; and, the design of mainstream and alternative education spaces. He has led over 40 research and consultancy projects involving collaboration with colleagues from over 20 different disciplines and from several countries. His latest monograph, *After Childhood*, was published by Routledge in 2020.

Steve Pool is a visual artist who works in education and communities. His doctorate explored the artistic residency as a method of enquiry. He has worked as a freelance artist working in education, communities and galleries for 30 years.

Jan White is a honorary Professor of Practice with Yr Athrofa/Centre for Education, University of Wales Trinity Saint David and co-director of specialist training company Outdoors Thinking. Her work centres on supporting provision and practice outdoors for children in early childhood education and care settings across the UK, with particular interests in play (as self-directed learning), ecology (as the study of relationships), landscape, embodiment and nurturing ecological identity. Her books include *Playing and Learning Outdoors* (3rd edn. 2020, Routledge), *Every Child a Mover* (2015, Early Education) and *Outdoor Provision in the Early Years* (2011, Sage).