



This work is protected by copyright and other intellectual property rights and duplication or sale of all or part is not permitted, except that material may be duplicated by you for research, private study, criticism/review or educational purposes. Electronic or print copies are for your own personal, non-commercial use and shall not be passed to any other individual. No quotation may be published without proper acknowledgement. For any other use, or to quote extensively from the work, permission must be obtained from the copyright holder/s.

# How do children learn about nature?

Katherine Mycock  
Doctor of Philosophy  
March 2018  
Keele University

## ***SUBMISSION OF THESIS FOR A RESEARCH DEGREE***

### **Part I. DECLARATION by the candidate for a research degree. To be bound in the thesis**

Degree for which thesis being submitted

Title of thesis                      How do children learn about nature?

**This thesis contains confidential information and is subject to the protocol set down for the submission and examination of such a thesis.**

**NO [please delete as appropriate; if YES the box in Part II should be completed]**

Date of submission      30/05/2017                      Original registration date 16/09/2013  
(Date of submission must comply with Regulation 2D)

Name of candidate      Katherine Mycock

Research Institute      Spire                      Name of Lead Supervisor   Prof. Clare Holdsworth

I certify that:

- (a)            The thesis being submitted for examination is my own account of my own research
- (b)            My research has been conducted ethically. Where relevant a letter from the approving body confirming that ethical approval has been given has been bound in the thesis as an Annex
- (c)            The data and results presented are the genuine data and results actually obtained by me during the conduct of the research
- (d)            Where I have drawn on the work, ideas and results of others this has been appropriately acknowledged in the thesis
- (e)            Where any collaboration has taken place with one or more other researchers, I have included within an 'Acknowledgments' section in the thesis a clear statement of their contributions, in line with the relevant statement in the Code of Practice (see Note overleaf).
- (f)            The greater portion of the work described in the thesis has been undertaken subsequent to my registration for the higher degree for which I am submitting for examination
- (g)            Where part of the work described in the thesis has previously been incorporated in another thesis submitted by me for a higher degree (if any), this has been identified and acknowledged in the thesis
- (h)            The thesis submitted is within the required word limit as specified in the Regulations

Total words in submitted thesis (including text and footnotes, but excluding references and appendices) .....73985

Signature of candidate ..... Date    ...30/5/2017.....

Extract from Code of Practice: **If the research degree is set within a broader programme of work involving a group of investigators – particularly if this programme of work predates the candidate's registration – the candidate should provide an explicit statement (in an 'Acknowledgments' section) of the respective roles of the candidate and these other individuals in relevant aspects of the work reported in the thesis. For example, it should make clear, where relevant, the candidate's role in designing the study, developing data collection instruments, collecting primary data, analysing such data, and formulating conclusions from the analysis. Others involved in these aspects of the research should be named, and their contributions relative to that of the candidate should be specified (*this does not apply to the ordinary supervision, only if the supervisor or supervisory team has had greater than usual involvement*).**

## **Abstract**

In the UK over the past two decades there has been a renewed investment in outdoor learning for children. This movement draws on ideas initially popularised in the United States about the importance of connecting children with nature. This movement advocates teaching children about and allowing them to connect with the natural world to provide valuable learning experiences for their personal development. Forest schools are part of this movement and have been established in the UK in response to concerns that children have lost contact with nature. This thesis provides a critical analysis of four such programmes including two forest schools, a school garden and a nature reserve located within the Midlands. It involved an immersive ethnographic study that took place over the 2014-2015 school year involving walking interviews, focus groups and participant observations.

In this thesis, assumptions surrounding children's supposed disconnection to the more-than-human world have been unpicked. A more-than-social approach is taken moving beyond narrow essentialist constructions of nature and childhood. This approach is combined with performativity in an exploration of participant practices in outdoor learning. In relation to the outdoor learning programmes, it was found that they incorporated Cartesian binaries – child-adult, male-female and people-nature. The knowledges and learning within them did little to encourage more open ways of understanding and being in the world. However, in the outdoor learning spaces there were opportunities for other ways of learning, which the children unconsciously exploited and developed. There were moments of experiential learning, whereby children assembled an array of more-than-humans to produce ways of learning and knowing about the world, which transformed their view of it. In these moments children were open to moving away from Cartesian versions of nature and created more hybrid and fluid natures.

## **Acknowledgements**

I would like to express my appreciation to the staff and children involved in the outdoor learning programmes who were so generous with their time and open to this piece of research. I am very grateful to those children who welcomed me, shared their spaces and thoughts with me. I have many fond memories of getting muddy with them. My thanks to the teachers and staff of the nature reserve and primary schools involved who helped with recruiting participants. I would like to particularly extend my thanks to Anna, Lorraine, Jane and Simon whose warmth, generosity, openness and enthusiasm made this study possible.

I wish to thank those people that have supported and guided me, making it possible for me to complete my doctoral thesis. In particular, I would like to thank Professor Clare Holdsworth for her encouragement, guidance and thought provoking suggestions throughout. My gratitude also goes to Dr Lydia Martens for her support, ideas and continuous enthusiasm for this project.

I would like to thank those who encouraged me to undertake master's study followed by this PhD, especially Tina Yemm for the many cups of black tea, early in the morning, that you delivered to my classroom with your words of wisdom. Also, many thanks to Dr Mark Riley who helped shape my ideas and guided me through the proposal that became this PhD.

Most of all, I thank David, my husband, for his patience, unwavering support and love.

# **Contents**

<i>Title page</i>	<i>i.</i>
<i>Declaration of Originality</i>	<i>ii.</i>
<i>Abstract</i>	<i>iii.</i>
<i>Acknowledgements</i>	<i>iv.</i>
<i>Contents</i>	<i>v.</i>
<i>List of Figures</i>	<i>vii.</i>
<i>List of Tables</i>	<i>ix.</i>
<i>List of Abbreviations</i>	<i>x.</i>
<b>Chapter 1: (Dis)connecting to nature</b>	<b>1</b>
<b>Chapter 2: What is nature?</b>	<b>12</b>
Cartesian wilderness	13
<i>Conservation</i>	15
<i>Nativeness</i>	20
<i>The production of nature</i>	22
<i>Co-production of nature</i>	29
<i>Combining co-production, Marx and Foucault</i>	35
<i>Conclusion</i>	37
<b>Chapter 3: What is childhood and how do children learn?</b>	<b>39</b>
<i>The child development paradigm</i>	40
<i>Constructing childhoods: The natural childhood</i>	41
<i>Disordered childhoods?</i>	45
<i>The child as social actor</i>	47
<i>Intergenerational relations</i>	48
<i>More-than-social childhoods</i>	51

<b>How do children learn?</b>	<b>56</b>
<i>Shaping the body at school</i>	57
<i>The problem with disciplining the body?</i>	61
<i>Spaces of learning</i>	64
<i>Citizenship</i>	67
<i>Practice and performance</i>	71
<i>Experiential learning in 'nature'</i>	74
<i>More-than-social approach to learning</i>	79
<i>Conclusion</i>	81
 <b>Chapter 4: Methodology Doing messy research</b>	 <b>84</b>
<i>Recruitment of ethnographic sites</i>	84
<i>Participants</i>	85
<i>Participant codes</i>	88
<i>Forest schools</i>	88
<i>Meadows forest school</i>	90
<i>Woodlands school</i>	92
<i>Garden school</i>	95
<i>Wetlands school</i>	97
<i>Researching with children</i>	99
<i>Ethics</i>	103
<i>Theoretical framework</i>	104
<i>Ethnography: Following the...</i>	106
<i>Focus groups</i>	110
<i>Positioning?</i>	112
<i>Analysis</i>	115
<i>Conclusion</i>	117
 <b>Chapter 5: Knowing childhood and nature</b>	 <b>119</b>
<i>Natural childhood</i>	119
<i>Knowing nature as therapeutic</i>	123
<i>Identifying and classifying bodies</i>	128
<i>Experimenting on bodies</i>	136

<i>Not so docile</i>	142
<i>Conclusion</i>	145
<b>Chapter 6: Learning in the garden, forest school and nature reserve</b>	<b>147</b>
<i>Learning to be an environmental citizen</i>	148
<i>Learning to be a docile body</i>	155
<i>Learning to move</i>	164
<i>Being disciplined in the fire square</i>	169
<i>Bodies that do not conform</i>	171
<i>Is discipline necessary?</i>	174
<i>Experiential learning</i>	177
<i>Conclusion</i>	184
<b>Chapter 7: The material-imaginary: a scary house, foxes, fire and mud.</b>	<b>186</b>
<i>The scary house</i>	187
<i>Foxes</i>	191
<i>Fire</i>	195
<i>Mud</i>	201
<i>Performing gender in the mud kitchen</i>	207
<i>Becoming dirty, becoming clean</i>	213
<i>Conclusion</i>	219
<b>Chapter 8: Conclusion</b>	<b>221</b>
<i>Research contribution</i>	226
<i>Recommendations</i>	235
<i>Limitations</i>	238
<i>Future research</i>	239
<b>Bibliography</b>	<b>241</b>



## List of Figures

Figure 1	Conceptualisations of nature	12
Figure 2	Conceptualisations of childhood	39
Figure 3	Conceptualisations of learning	56
Figure 4	Forest school at Meadows School	90
Figure 5	Forest school at Woodlands School	93
Figure 6	Early Years garden at Garden's school	95
Figure 7	Inside the bird hide at the nature reserve	98
Figure 8	Kylie's picture	110
Figure 9	Analysis in action	115
Figure 10	Fire square at Woodlands School	169
Figure 11	The Wendy house at Meadows school	187
Figure 12	Mud kitchen at Meadows School	207
Figure 13	Mud kitchen at Woodlands school	207
Figure 14	Mud Kitchen at Garden School	208
Figure 15	Waterproofs and welly storage at Woodlands school	215

## **List of tables**

Table 1	Participant information	86
Table 2	Department of Education (2013-14) statistics	87
Table 3	Participant codes	88

## **List of abbreviations**

ANT	Actor Network Theory
ADD	Attention Deficit Disorder
ADHD	Attention Deficit Hyperactivity Disorder
BBC	British Broadcasting Corporation
BME	Black and Minority Ethnic groups
DCLG	Department of Communities and Local Government
NDD	Nature Deficit Disorder
NSSC	New Social Studies of Childhood
PRM's	Participatory Research Methods
SEN	Special Educational Needs
RSPB	Royal Society for the Protection of Birds
UNICEF	United Nations Children's Fund

## **Chapter 1: (Dis)connecting to nature.**

Teaching children about the natural world should be seen as one of the most important events in their lives. (Berry, 1990: 131)

In the UK over the past two decades there has been a renewed investment in outdoor learning for children. This movement draws on ideas initially popularised in the United States about the importance of connecting children with nature (see Berry, 1990; Gill, 2007; Louv, 2005; Monbiot, 2013). This movement advocates teaching children about and allowing them to connect with the natural world to provide valuable learning experiences for their personal development. The promotion of outdoor learning presents mainstream schooling as a space that is unable to facilitate children connecting to the natural world, due to its routines, structures, boundaries and curriculum that prevent children learning for themselves about more-than-humans (*ibid.*). Forest schools are part of this movement, and have been established in response to concerns that children have lost contact with nature. Though the movement draws on nineteenth century philosophies about education and nature, the first contemporary forest schools were established in the 1990s in the UK. There is though no fixed definition of what a forest school is; the essence is that they involve year round outdoor learning with a qualified forest school teacher with learners regularly and repeatedly visiting the same site (usually for at least six weeks) (Forest School Association, 2014). Some forest schools are connected to mainstream primary schools, whilst others are independent; they can be fully integrated into the curriculum, be extra-curricular, take place in specially created areas (such as school ponds and gardens) or already established sites (such as local woodland) (Williams-Sieghfredsen, 2012).

The establishment of Forest Schools in the UK since the 1990's has been strongly influenced by Scandinavian provision of early years and pre-school childcare (Forest School Association, 2014). Kraftl (2013a) has highlighted three key influences upon their development: the growth of environmental education, growing concerns about children spending less time outdoors and the rise in popularity of experiential learning. The Scandinavian philosophy of *friluftsliv* or outdoor living has played a key influence in developing forest school philosophy that aims to connect children to more-than-humans through repeated encounters with them (Forest School Association, 2014). Forest school has a particular aim to transform the lives of children through engagement with more-than-humans. Knight (2011a) suggests that children who participate in a forest school can change from supposed 'cotton wool kids' who are fragile and struggle with the challenges of daily life to being resilient and capable citizens, by 'reconnecting' children with 'nature'. In particular, forest school educators position forest school as a site where children learn to negotiate risk effectively by doing tasks that are constructed as potentially harmful, such as fire lighting and climbing trees (Knight, 2014). This form of learning is defined by forest school educators as child-initiated with children seen to make their own decisions with adult acting as facilitators (Knight, 2011b). For tasks that are deemed to be dangerous (such as fire lighting) adults teach children how to do it safely, gradually withdrawing support until they become independent (*ibid.*). Movement, both bodily and that of materials, is thought to be central to learning and development, as it is believed that interest in the world and mastery are brought about by prolonged and repeated manipulation of an object. Forest schools educators are seen as responsible for creating a stimulating space that encourages movement through providing opportunities for children to engage with tactile materials, such as mud, sticks and leaves (Knight, 2011b).

Contemporary and popular characterisations of childhood and children present their lives as unhealthy, indoors, solitary, sedentary and dominated by screen based technologies (Moss, 2012). In this characterisation children spend less time playing outdoors or doing physical activities, and part of the reasoning given for this is that they have few opportunities to connect with the natural world in their daily lives (*ibid.*). These concerns have been circulated by quasi-academic literature related to the outdoor learning movement (see Gill, 2007; Louv, 2005; Monbiot, 2013) and the media. For example, media reports have claimed that the loss of contact with nature is 'damaging children' and 'threatening nature' (The Guardian, 19 November 2012), with the MailOnline (25 September 2012) stating that the loss of contact to nature will lead to a 'generation of weaklings'. One of the most famous reactions to childrens supposed alienations from nature is Richard Louv's (2005) *Last child in the woods*, in which he claims that disconnection from nature is prevalent amongst most children today, and that they have developed a set of behavioural and health issues termed 'Nature Deficit Disorder' (NDD). In addition to the physical and mental health issues attributed to NDD, is the assertion that it may culminate in children reaching adulthood with no regard for, and ultimately harming nature (Louv, 2005).

These ideas that children have become disconnected from nature are not new and can be traced back to Rousseau and extend beyond class or race (Taylor, 2011). In order to remedy this notion of a lost childhood, due to nature disconnection, adults past and present intervene in children's lives attempting to recreate spaces and activities where these nostalgic imaginings can be realised (Holloway and Valentine, 2000). This can be seen in the two extracts below:

In the woods the next day we paddled in a stream, rolled down a hill, ate blackberries, tasted mushrooms, had helicopter races with sycamore keys, explored an ant's nest, broke sticks and collected acorns. Most had never done any of these things before, but they needed no encouragement: the exhilaration with which they explored the living world seemed instinctive. I realised just how little contact they'd had when I discovered that none of them had seen a nettle or knew what happens if you touch it. (George Monbiot, 2013).

At that moment a very good thing was happening to her. Four good things had happened to her, in fact, since she came to Misselthwaite Manor. She had felt as if she had understood a robin and that he had understood her; she had run in the wind until her blood had grown warm; she had been healthily hungry for the first time in her life; and she had found out what it was to be sorry for someone. (Frances Hodgson-Burnett, 1911: 34).

The two extracts above have been written about 100 years apart from each other, yet they echo similar sentiments that children are nurtured in nature. In *The Secret Garden*, first published in 1911, Mary Lennox a sickly and rude child is sent to Yorkshire to an isolated house, Misselthwaite Manor, after the death of her parents. After taking an initial dislike to her new home, she becomes happier and healthier as she explores a secret garden regularly encountering a robin who becomes her friend. The other extract is taken from an article published in the Guardian newspaper outlining an experience that George Monbiot had with a group of prominently black ten year olds from inner city London, as they took part in an outdoor learning programme in Mid-Wales run by a charity called WideHorizons. The article typifies predominant attitudes held that children, particularly those in cities, are lacking contact and experiences with nature in their daily lives. Both extracts have a shared vision of nature, as idyllic countryside - the woods, the wind on

your face, encountering small birds, paddling in streams and eating blackberries. These encounters with the more-than-human are through sensory experiences, and are portrayed as being enjoyable, beneficial and worthwhile. For children to connect with nature, it is perceived that they have to be taken away from the space of their daily lives to one that they are seen to have little or no experience of. The child is presented as incompetent, not knowing the natural world, whilst adults possess knowledge and understanding of the world that can be transmitted to them so that they can become connected to it. Here, adults know what is best for the child, as they become empty vessels for adults to impart their ways of seeing and knowing the world. There is clear moralising of children's relations with the world, throughout Monbiot's article, the Secret Garden and the outdoor learning movement more generally. It is their mission to save children and nature from the consequences of their supposed disconnection.

There has been a proliferation of organised opportunities for children and families to engage with the more-than-human world in schools, such as forest schools and gardening clubs. Outside schools there have been a number of schemes run by a range of Non-Governmental Organisations, examples include the National Trust's '50 things to do before you're 11 3/4', the Wildlife Trusts' Wildplay and Nature Tots schemes and the RSPB's Bioblitz (counting and identifying species project) engaging thousands of children across the UK. There are no official figures about how many schools now operate outdoor learning programmes, but there has been a rapid growth in the number of forest schools. In 2006 there were approximately 100 forest schools (O'Brien and Murray, 2006), and by 2015 the forest school association had trained 12,000 people as forest school practitioners (The Guardian, Tuesday 21 April 2015). Thus, forest schools have become an important movement within primary education that need to be understood better and through a



critical lens. They are part of a broader movement that aims to reconnect children with nature and bring about attitude change transforming children into environmentally conscious citizens (Karsten, 2005). Despite this proliferation of outdoor learning programmes, and the investment that has been undertaken in forming and maintaining them, there has been little critical analysis and few opportunities for children to have a say about them.

This research aims to unravel and apply a critical lens to forest schools and outdoor learning more broadly, through an exploration of concerns surrounding whether there is disconnectedness between more-than-humans and children. This thesis will contribute to the growing body of work that critiques assumptions that children are disconnected from nature and therefore supposedly disordered (Dickinson, 2013; Frumkin, 2013; Malone, 2015; Taylor and Pacini-Ketchabaw, 2016). The evidence used to support NDD can be considered as being tenuous, as it relies upon quantitative methods utilising oversimplified models to measure the highly complex relationship between more-than-humans and children with the focus on specific variables leading to an over simplification of the relationship (Frumkin, 2013). Quantitative methods are not suitable for this for the research, due them reducing phenomena into a neat categories, theories and findings (Rautio, 2013a). The lives of animals, children and other lives are inherently more complex and messy, constantly in flow, as they change through encounters with others (Deleuze and Guattari, 2000). Quantitative methods, as used in existing research, take the concepts of nature and childhood as being truths (Ernst and Theimer, 2011; Larson *et. al.*, 2011; Richardson *et. al.*, 2016). In these studies nature is conceived as the more-than-human world existing in separation from humanity and childhood takes place in everyone's lives from birth until they reach 18 years old (*ibid.*). Both nature and

childhood are highly contested terms (and are not easily definable see Castree, 2005; Smith, 2008), and these terms will be explored in depth throughout the literature review chapters. Yet, nature is often used in an essentialist way referring to the more-than-human world as separate and untainted by people (Castree, 2005); as such I will avoid using the term nature and instead refer to non-human phenomena as more-than-humans. By using the term more-than-humans I hope to minimise Cartesian duality and capture the interconnectedness of all phenomena. By using a more ambiguous term than non-human or nature I am hoping to avoid fixing phenomena and limiting what they can become, as such I wish to acknowledge the liveliness of them (see discussion on co-production approaches to nature p.29).

In this thesis I will unpick assumptions surrounding children's supposed disconnection to the more-than-human world by taking a more-than-social approach, which moves beyond narrow essentialist constructions of nature and childhood (see Kraftl, 2013b). In this research a more-than-social approach is one that is aware and sensitive to the complexity and interconnectivity of life, whereby more-than-human phenomena, culture, politics, economics and social are entwined. I recognise that our lives are co-constituted by innumerable more-than-human others (Asdal *et. al.*, 2017). Drawing upon Kraftl (2013b) I use the term more-than-social throughout this research to emphasise emotional relations in the assembling of outdoor learning at each of the ethnographic sites. Through this approach the ways that more-than-humans and children become entangled through encounters at the outdoor learning sites are explored. Boundaries between more-than-human/human are disrupted allowing for the reconceptualising of child-adult and more-than-human-child relations as assemblages (Deleuze and Guattari, 2000). Although a more-than-social approach was at the forefront of the inception of this research it became

clear during the fieldwork that I could not ignore the discursive nature of children's performances. I turned to performativity as a way to explore participant practices in the outdoor learning spaces in order to reveal the ways that participants constructed knowledges of nature, childhood, gender, ethnicity, learning and knowledge. By understanding the embodied nature of our engagements with the world we come to a partial understanding of how we come to learn and know the world, as we also need to consider how more-than-humans co-construct performances. Thus, performativity here is not just understood as discursive in terms of being restricted to language or representation, but more-than-humans are seen as generating affects that shape our performances (Dewsbury, 2003) (*see p.72 for more detailed discussion on performativity*).

The broad aim of this study is to explore outdoor learning in a more-than-social way to reveal the becomings of more-than-humans and children in each of the ethnographic sites, which was framed by three specific research questions:

- 1) How do children taking part in outdoor learning programmes encounter, learn about and understand the world?
- 2) What knowledges about nature, more-than-humans and children are created through outdoor learning programmes?
- 3) How does a more-than-social approach go beyond Cartesian binaries and reveal the complexity of learning and practices in outdoor learning programmes?

These questions were answered by undertaking of an immersive ethnography that included observation, participation, walking interviews and focus groups on four ethnographic sites during the school year of 2014-2015. The ethnographic sites included two forest schools,

a school garden and a nature reserve. The forest schools both had a specialist teacher who ran outdoor activities, throughout the year, in a wood usually involving six sessions in a course that lasted as many weeks. A regional conservation charity ran the education programme at the nature reserve, which targeted school aged children. At the nature reserve schools often took part in predefined activities (such as bird watching, pond dipping and bug hunting) that were related to the National Curriculum in a one-off visit. The garden was developed during the school year in a foundation unit attached to a primary school. Children were involved in clearing the site, planting and then, once completed, they were allowed access to the site. Connections were made between each of the research sites by following objects, bodies, practices, animals, plants, mud, smoke, imaginations and ideas across them (*see* Cook, 2004).

The thesis begins with a review of two bodies of literature (**chapters 2 and 3**) related to nature and childhood, drawing mainly on sociological, geographical and educational perspectives. Within these chapters nature and childhood are understood concepts with multiple definitions and understandings of them. The review examines how we conceive nature and childhood and the effects that this has upon how we learn and know about the world. The review will explore nature and childhood separately, although links between the two bodies of work will be drawn out, particularly in the conclusion. **Chapter 2** examines three key standpoints used to frame what nature is, beginning with Cartesian understandings of nature where it is considered as separate from humanity, followed by revealing how nature is socially constructed and finishing with a co-produced understanding of nature. The chapter concludes by bringing together the analysis of these different standpoints to offer a conceptualisation of nature that is used in this thesis. **Chapter 3** explores how adults act upon children and attempt to mould their lives by

constructing childhoods with a focus upon a particular conceptualisation - the natural childhood. The review moves on to examine how adults attempt to shape children's bodies through bio-power with discourse creation, disciplinary practices and pedagogies. Before looking at how children learn, by examining the role that embodiment plays in learning and how it shapes children's lives. The review finishes by exploring the ways that children learn beyond the discursive; through experiential, relational and more-than-social pedagogies. The thesis moves on to an outline of the post-structural methodology and ethnographic methods used (**chapter 4**), including observation, participation and interviews/focus groups in each of the four ethnographic sites. This section presents the theoretical framework, following a more-than-social approach combined with performativity, whereby materiality and discursivity become understood as entwined (see Barad, 2007). Throughout this chapter the research process and the act of doing it is explored as being messy. The chapter concludes with a reflective account of the methodology with a discussion on ethics, researching with children and dilemmas surrounding positionality.

The analysis (**chapter 5**) begins by exploring how nature and childhood are constructed in the outdoor learning movement, connecting to research questions 1 and 2. It examines how a particular conceptualisation of childhood emerges- the natural childhood. The prevalence of the natural childhood influences how knowledges are formed, as more-than-humans and children become passive phenomena in need of adult care. The chapter then moves on to examine another dominant ontology in the outdoor learning programmes, which involves knowing the world through science, and in particular through observation, identification, classification and experimentation. The final section of this chapter explores how bodies respond to subjectification in unexpected ways, with new

understandings emerging when children are open to phenomena becoming in unexpected ways. **Chapter 6** relates to research questions 1 and 2, by looking at how the knowledges created about nature and children are disseminated through learning activities, and analyses the complex ways that children learn. Broadly, it is organised into two overarching ways of learning that emerged through ethnographic research across the outdoor learning spaces. It begins by examining structured forms of learning shaped by disciplinary power and then moves on to experiential styles. **Chapter 7** examines the outdoor learning programmes through a more-than-social approach, which draws attention to more-than-humans, including a Wendy house, foxes, fire and mud, linking to research question 3. A more-than-social standpoint is taken, whereby the boundaries between more-than-human and human are dissolved as they become fused together (Haraway, 1991). Materiality here will not be seen as something that is merely an end product of discourse, but as co-constituting ideas and practices, which is exemplified through fieldwork observations and interview quotations (Barad, 2007). Finally, **chapter 7** concludes the thesis through a summary of key findings, limitations of this study, recommendations and potential future studies. This chapter also outlines the contribution that this study makes to research, and particularly how it develops existing debates and understandings within children's geographies.

## **Chapter 2: What is nature?**

“When I say nature, I mean a set of human ideas about the world and our place in it. But the death of these ideas begins with definite changes in reality – changes that scientists can measure and enumerate. More and more frequently these changes will clash with our perceptions, until finally, our mistaken sense of nature as eternal and separate will be washed away and we will see all too clearly what we have done” (McKibben, 1990:7).

“Nature as *inescapably social*. Here the argument is that nature is defined, delimited, and even physically reconstituted by different societies, often in order to serve specific, and usually dominant, social interests”(Castree, 2001: 3).

“Natures are made but not in ways that are reducible to human meaning systems” (Hinchliffe, 2007:3).

Figure 1: Conceptualisations of nature

In a survey completed by the National Trust (2012: 20) they found that the public generally defined nature as being "out in the countryside, far away from urban civilisation". This survey reflects popularist conceptualisations of nature, that it is somewhere out there, beyond the everyday and an idealised wilderness space where people are absent. It also hides that nature is not a term that can be easily defined and is highly contested. Castree (1995) believes that the term nature is one of the most complicated in the English language; it can mean the essence of something, the more-than-human world in isolation or an inherent force ordering the world. Nature is a highly complex and loaded term that has contrasting meanings (see figure 1), but is often reduced to a singular meaning, as a more-than-human sphere separate from humanity, when it is applied in reference to the world (Braun, 2009). However, it is impossible to separate more-than-human and human worlds, as no place on earth is untouched by human activity and humanity is part of nature, therefore nature does not exist in isolation to society (Demeritt, 2002). The quotes in figure 1 show multiple understandings of what nature is.

The first quote highlights Cartesian ideas about nature, whereby human and more-than-humans are placed in separate realms, painting it as vulnerable and in need of protection. The second quote is from a Marxist standpoint, and suggests that nature is, in essence, political and socially produced in order to further the interests of specific groups in society. The final quote reflects actor-network and non-representational theorists alluding to nature being created not only by people, but also through co-production whereby more-than-humans play a part in knowledges about it.

Understanding the multiple meanings of nature is extremely important in this research. In order to answer my initial research questions I need to make sense of not what nature is in terms of defining it in a fixed and singular way, but of what it could be. By trying to understand what nature could be I then explored, in chapters 4 and 5, whether any of those ideas about it were present in the outdoor learning programmes and their affects upon ontologies and epistemologies. In this chapter, I will set out the three key standpoints used to frame what nature is, beginning with Cartesian understandings of nature where it is considered as separate from humanity, followed by revealing how nature is socially constructed and finishing with understandings of nature as co-produced. The chapter concludes by bringing together the analysis of these different standpoints to offer a conceptualisation of nature that is used in this thesis.

### *Cartesian wilderness*

Cartesian versions of nature present it as a timeless more-than-human world that has always existed regardless of human imagination, representation and production; therefore nature can exist in a state whereby it is untouched and pristine. Through the radical separation of the more-than-human and human worlds, nature becomes thought of as



existing as 'wilderness' - the pinnacle of nature in a pure and pristine state (Taylor, 2011). The more-than-human/human divide creates a form of nature that is external to humanity, and through interaction with it people are perceived to be a threat to nature (Harvey, 1993). From this emerge two concurrent and contradictory constructions of nature, as both wild (a threat to humanity) and as vulnerable (being endangered by humans). For instance, McKibben (1990) views humanity as a destructive force that has signalled the end of nature, with no place left on earth where people have not interfered with it in some way. For McKibben (1990), people need to be removed from the more-than-human world to restore it to a so-called state of pristine wilderness.

Cronon (1995) counters McKibben's argument, suggesting that wilderness is not a real space, but one that is a utopia created in human imaginations. He highlights how representations of wildernesses are often devoid of people, but these areas presented as empty will often have remnants of human activity. For example, Amazonia was considered to be a primordial forest with little human influence, but satellite images taken in 2008 revealed that the activities of past indigenous people transformed the biodiversity of the forest (Sparavigna, 2011). The problem with considering wilderness as a space devoid of humans is that it creates a world, whereby more-than-humans and human are in continual conflict with each other (Cronon, 1995). Therefore, the construct of wilderness fails to allow for humanity and nature to co-exist. Although Cronon's work is useful for contesting the Cartesian divide, by understanding wilderness as a utopia that is purely imagined it fails to give full consideration to how various phenomena come together in and are involved in assembling wilderness.

## *Conservation*

Conservation is often seen as the preserving of the environment in its current state protecting it from threats posed by human activities, such as house building, industrial development and infrastructure projects (Biermann and Mansfield, 2014). When conservation is framed, as such then Cartesian nature is drawn upon to create an imagined space that is a pure and vulnerable domain separate from society (Lorimer, 2015). By framing nature in Cartesian terms, it can be known by objective science and acted upon through rational environmental management programmes (*ibid.*). The emergence of these ideas can be traced to the US environmental movement in the early 20th century (Biermann and Mansfield, 2014). At this time discourses about American landscapes increasingly emphasised the protection of nature as well as the cultural and national importance of landscapes considered unique (*ibid.*). This type of conservation management, where an attempt is made to force nature and people apart, has been termed fortress conservation, and has been applied to a range of spaces from bounded urban woodlands to National Parks across Eastern Africa (Hinchliffe, 2007).

One of the practices linked to fortress conservation is the expulsion of people from areas designated as wilderness often these people were treated as unworthy of respect or rights - "racism buttressed by naturalism" (Hinchliffe, 2007: 11). For example, in the 1970's the Baiga people were forcibly evicted from the forests of Madhya Pradesh by the Indian government to create the Kanha Tiger Reserve (Uddhammar, 2006). The Baiga were presented as savage poachers who were a threat to the tiger population, even though tiger habitat had been created by the tribe cultivating the forest (*ibid.*). This particular example shows that to think of nature as a separate realm and then to act upon it through depopulation is not only damaging to the peoples that inhabit that space, but also the animals

that exist there. However, once an area is fortified it is rarely successful at keeping people out, with numerous border crossings taking place, from children exploring new areas to poachers hunting for profit. Ironically, fortress conservation even encourages certain groups of people, such as scientists, tourists, wildlife volunteers and security guards, into those protected spaces that are supposed to be devoid of people in order to maintain them in a desired state. Therefore, it can be argued that fortress conservation, as with childhood, is more about protecting and sustaining the values of the middle class than about the more-than-human world (Hinchliffe, 2007; Whatmore, 2002).

Geographers have explored conservation through the lens of bio-politics, whereby life is secured at the scale of population, with a number of different technologies and strategies deployed to act upon bodies in productive and destructive ways in order to mould them (Biermann and Mansfield, 2014; Lorimer, 2015). Conservation science is shaped by bio-political logics emphasising distinctions between biological kinds and subsequently developing interventions based on these distinctions (Biermann and Mansfield, 2014). Within the conservation movement, there is a distinct set of scientific practices for developing knowledges about plants and animals, such as identifying, classifying, counting, surveying, mapping and calculating (Lorimer, 2015). These practices then go on to inform management practices like culling, fencing, breeding, planting and removing species (*ibid.*). For example, conservation policy in the UK has been framed around biodiversity with species classified according to their rarity against a set of criteria, based on international importance, rapid decline and high risk (Joint Nature Conservation Committee, 2016). Those species that are identified, are surveilled and monitored, in order to assess and report upon changes to the populations (*ibid.*). Each species is given an action plan involving acquisition and designation of land, education to boost numbers

risk legislation and subsidies (Joint Nature Conservation Committee, 2016). Bio-diversity conservation here is understood as a rational desire to classify species according to their rarity so that their bodies can be acted upon, with aesthetic and intrinsic qualities played down as they cannot be readily quantified (Lorimer, 2015).

Not all species are targeted equally by conservationists, with some particular species, such as elephants, red squirrels, pandas and tigers, receiving more attention and they have gained popular appeal. Lorimer (2015) suggests that it is often the species that have aesthetic charisma, qualities that are visually attractive to humans, are those that become entangled in conservation networks. Animals that are deemed the most attractive to people are often seen as having anthropomorphic features, they are given human traits with their bodies identified as similar to ours and/or they seem to experience emotion (Jones, 2000; Lorimer 2015). Aesthetic charisma does not just have positive attachments; it can also trigger strong and visceral feelings of disgust and panic (Lorimer, 2015). Many adults find it difficult to personify an insect, as their bodies and behaviour are so different from ours, and they are not easily controlled or domesticated (*ibid.*). However, there are those who are not repelled by the difference of insect bodies, but they are instead drawn to them. Thus, the charismatic affects of animals are not universally felt, as there are those who will be more affected by the materiality, sounds and smells of an animal during an encounter. For example, younger children are encouraged to encounter ducks and geese, but for some this is a frightening experience due to their comparative size, feathery bodies and the noises they make. Therefore, when exploring more-than-human encounters it is important not to universalise them as having the same affects upon those involved, but to be sensitive to the differences that these potentially generate.

The conservation movement often draws heavily upon anthropomorphism to draw out certain affects that it is hoped will influence individuals. Milton (2002) describes anthropomorphism as a form of human extensionism where those animals that display reciprocity to the circumstances of others are allocated personhood. For example, in *Africa* (2013) the audience is immersed into a family of African Elephants, as they migrate in search of food a calf becomes increasingly weak until it collapses as the rest of the herd marches on. David Attenborough announces, "She won't abandon her baby". Through this footage the audience connects to the elephant, it generates a strong emotional response, as the viewer is encouraged to feel grief of the mother as if the elephant calf was a human child. Such programmes have strong affective logics and are used by conservationists to guide how people act in relation to particular animals and/or habitats (Lorimer, 2015). It is hoped that such images will spark a desire within individuals to change their behaviour and contribute to the conservation movement (*ibid.*). Although, these affective logics used by conservationists also target children they fail to consider that children respond differently to them from adults. For example, when encountering dead animals children often seek to experiment with them, whereas adults may feel uneasy, avoid contact with the animal and even ignore it (Taylor and Pacini-Ketchabaw, 2016). Therefore, by failing to consider the differences between children and adults affective strategies used by conservationists are potentially less likely to have the desired effect of stirring children's emotions and transforming them into stewards of nature.

More recently, conservation has been influenced by a new paradigm in earth sciences- the Anthropocene. A new epoch where humans become the main force of change on earth, that has resulted in humanity leaving a signature in the fossil record (Hamilton, 2016). The Anthropocene challenges nature as a pure and separate domain, humanity is seen

causing rapid global environmental change that threatens the earth and contaminates all spaces leaving nowhere untouched (*ibid.*). In relation to conservation, it has changed the way conservationists think about nature and their involvement with more-than-humans, as the nature/culture divide has collapsed with all life becoming entwined (Adams, 2016). Thus, the Anthropocene opens up a very different world, one where nature becomes hybrid natures that are formed primarily through human activities. Science is seen as being particularly complicit with modifying the more-than-human world through the development of strategies and genetic technologies that are seen to secure life for certain species and landscapes (Wapner, 2010).

In particular, models of re-wilding have become prevalent with conservation management supposedly returning landscapes to their prehistoric state before human involvement (Adams, 2016). The fixing of nature into a specific state is embedded in conservation strategies that involve the so-called re-wilding of landscapes. Environmental restoration involves imagining an ecosystem before human involvement and creating it into that state (Smith, 2013). However, the idea of returning nature back to its original state is highly problematic, as it is impossible to pin-point a time when humans or our ancestors did not interact with the surrounding environment, modifying it in some way (Cronon, 1995). Also, in the scientific community there has been a great deal of contestation about the types of pre-human eco-systems that existed (Mitchell, 2005). For example, primeval virgin forest was the dominant view of pre-human European landscapes, but recently some scientists have suggested that the landscape was more open and not densely forested have challenged this view (*ibid.*). The construction of these primeval landscapes by scientists, drawing upon Foucault (2002b), is yet another example of how science produces discourses that are presented as truths and then these are enacted by various institutions in

order to create a scientific vision of the world. Therefore, conservation discourses are used to rationalise the 'restoration' of landscapes, and become a form of power that enable the values of a group of scientists and conservationists to shape particular places (Smith, 2013). Overall, such discourses reinforce the faulty notion that people in the past lived in harmony with nature and the more-than-human is viewed as through an anthropogenic lens, as something that can be shaped into a version of our choosing (Adams, 2016).

### *Nativeness*

Discourses related to nativeness, whereby identification of 'unnaturalness' in a species behaviour, place or being takes place, are commonly used in the practices of conservation (Hinchliffe, 2007). The categorisation of species is supposedly based upon objective knowledges, with a clear definition and systematic classification developed to sort native and non-native species (Richardson et. al, 2008). For example, non-native species are defined as those that have been introduced to an area through human activity and would not have been previously found there (Pyšek *et. al.*, 2008; Webb, 1985). Webb (1985) established a criterion for judging nativeness, but some of the criteria are highly flawed, such as the assumption that native plants are found in supposed natural habitats and have high genetic diversity. Often those species identified as native are considered to be more beneficial to other animals and communities, with non-native species presented as a threat by conservationists (Kendle and Rose, 2000). However, those species that are identified as not belonging are often woven into people's sense of place, and attempts to control/eradicate them can lead to moral tensions and can even threaten livelihoods as people come to depend upon them (Warren, 2007). There are some non-native species that are beneficial to British wildlife, such as buddleia (*Buddleja davidii*) - introduced by Victorian gardeners, which supports a range of butterflies and bees (*ibid.*). Thus, whether

a species is native or non-native again reinforces dichotomous thinking, and overly simplifies how a particular species relates to its environment.

Cartesian approaches to nature not only disguise its cultural construction, but they create a static form of it that remains the same across time and space (Hinchliffe, 2007). Hinchliffe (2007) aims to unsettle the more-than-human/human dichotomy and challenge how we think about nature, as being enacted through complex relations between more-than-humans and humans. He explores how objective ecological knowledges create data about more-than-human phenomena reducing them into an ideal form, which in turn, is presented as truth in field guides (*ibid.*). Hinchliffe (2007) suggests that we should reconsider how we know and present the more-than-human world, and not fix phenomena into static representations. Instead the ways we present and consider the more-than-human world should allow for changes across time/space. Hinchliffe (2007) exemplifies his ideas through an exploration of the relationship between conservationists, the brown rat and the urban water vole at a canal in Birmingham. Conservationists found that the water vole and brown rat were co-habiting in the same space together, challenging knowledges found in fieldwork guides, in which the brown rat is fixed as a threat to water voles. So rather than killing the rats the conservationists allowed them to live and, in effect, their understanding of the relationship between vole/rat had been transformed. This transformation has been able to happen, due to the conservationists being affected, but also being open to the differences that they saw enabling the animals to become co-producers of knowledge (Hinchliffe, 2007).



### *The production of nature*

The next sets of ideas I will explore are related to how nature can be considered as socially constructed. In this section I will begin by exploring the ideas of those who position themselves as Marxists and consider nature to be transformed by people in order for capitalism to exist and continue. I will then move on to work that has applied Foucault's analytic of governmentality, to explore in more depth how nature is socially constructed.

Through a Marxist lens capitalism is perceived to be the force that drives our ideas about the more-than-human. Marx suggested that people transform nature through their labour, so that it becomes a resource to be shaped into products with the ultimate aim of creating value (Harvey, 1992). Thus, nature is understood as socially produced, whereby the more-than-human is reduced to a resource to be accumulated, processed with, sold, used and recycled/disposed of. Marxist geographers view capitalism as being the central force that organises and transforms nature through a process of ceaseless expansion (Castree, 2005; Harvey, 1992; Smith, 2008). Capitalist expansions have fused more-than-human and human phenomena together in socio-ecological formations that collapse the Cartesian divide between nature and society (Harvey, 1992). The fusing of life is evident across all sectors of capitalist production, including food, pharmaceuticals, resources and clothing. Studies, such as Prudham's (2003) exploration of the use of biotechnology in commercial forests in Washington State, have examined in depth the fusion of specific phenomena. Prudham (2003) finds that the forests in Washington State could no longer be viewed as natural, but instead are produced by capitalism through science and technology. Therefore, it is impossible to distinguish between what is natural and what is not, or as Braun (2009: 20) poses "Where does nature end and society begin?"

Castree (2005, 2013), drawing upon Marxist understandings of nature, focuses upon epistemologies of, or how we come to know nature. He suggests that our knowledges about nature are produced and disseminated by academia, the media, government and business, working together in order to secure capitalism's future. Individuals do not experience the environment without mediation from frameworks of understanding that organise how we perceive nature (Castree, 2005, 2013). Castree (2005, 2013) believes that much of what we personally know about nature is rarely experienced, instead we are told about it from knowledge producing domains. For example, television shows about the countryside, like *Countryfile*, present an idyllic vision of rurality. *Countryfile* conveys messages to viewers about how to use the rural landscapes for recreation, learning, living in and earning a livelihood from. Thus, the countryside becomes a space of consumption, but one that is also vulnerable, echoing Rousseauian constructions of nature, with viewers encouraged to be active in its conservation. Here, if we turn Castree's (2013) work to interpret the ontologies that emerge from *Countryfile* then a combination of capitalist and Rousseauian ideas about nature gain purchase over others, which are marginalised, and this contest becomes hegemonic.

There are some fundamental shortcomings of Castree's (2005, 2013) approach towards nature, knowledge and hegemony. Firstly, Castree suggests that individuals are unable to directly access and construct their own versions of nature. The individual is reduced to a passive subject who reproduces natures that are disseminated through more powerful institutions, and so fails to allow space for the individual to construct and encounter the more-than-human in their own way. Secondly, nature is presented a universalised concept with all knowledge produced about nature being in essence the same. Harrison and Davis (2002) show through a study of derelict sites in London how natures in these sites are

highly contested and how ecologists, working in a range of sectors, construct these sites in differing ways. Generally, they found that ecologists working on behalf of government viewed the derelict sites as good potential for housing development to remove the pressure on other (often rural) spaces (*ibid.*). The rural spaces were perceived to have higher ecological value by the government, whereas ecologists working for conservation charities often saw the derelict sites as having high bio-diversity and were worthy of protection (Harrison and Davis, 2002). Harrison and Davis (2002) highlight the fragmented state of knowledges that surround nature, as often professionals in the same field will have contrasting visions of what nature is. Therefore, Castree's notion that nature is universally the same across different knowledge producing institutions is overly simplistic and fails to consider the complexity of nature as a concept.

A central idea of Marxist approaches to nature is that it is produced by human labour from natural resources (Smith, 2008). Smith (2008) argues that capitalism first transforms nature that is original, pristine and untouched by man, into second nature, which is a socially produced nature that forms the material to be used as resources in capitalist production. Smith, like the deep ecologists examined previously, believes in a form of nature that is pristine and separate, but this form of nature has not and does not exist in reality, it is an imagined nature. The notion of first nature, as with wilderness, is presented as existing in a pristine form before it was spoilt by human sin (Cronon, 1995). Smith (2008) seems to neglect how first nature is a particular construction of nature reflecting a specific set of values, and in essence it is a utopic form of nature. Then through the transition into second nature the more-than-human becomes increasingly homogenous as it becomes valued as a resource (Smith, 2008). Essentially, nature is viewed as moulded into capitalism's image. However, there has been criticism of approaches that reduce

nature into something that can be merely moulded by human hands (Hinchliffe and Whatmore, 2006). Through this Marxist lens, nature is reduced to an idea that can be used to fulfil human desires, forgetting that the more-than-human is complex and unpredictable (Whatmore, 2002).

The production of nature, according to Smith (2008), involves the creation and mobilisation of discourses that suggest that it can be controlled, allowing capitalism to transform nature. Smith (2008) argues that the development of romantic ideologies of nature in the 19th Century was essential to the capitalist 'conquest' of the USA, which often envisioned nature as female. Discourses of vulnerability, wildness and incompetence are often used to justify interventions too more-than-humans, children and women (Taylor, 2013). These ideas normalise certain attitudes and values towards the environment that conserve the interests of those in powerful positions in the capitalist system, reproducing their domination of society. For example, through romanticised representations both women and nature are often presented as passive, subordinate and controllable by men, whilst simultaneously being mothers and nurturers. Smith (2008) points out the romanticism of women and nature was a form of masculine power attempting to control and dominate them. This refocuses debates surrounding nature away from whether it can be governed and towards who controls the production of nature and who is dominated. The concept of ideologies of nature, as a means of control and as a form of power, is a useful one as it highlights how certain discourses can be mobilised in order to control individuals. Therefore, debates surrounding nature are refocused away from whether it can be controlled and towards who controls the production of nature.

Marxist geographers have considered that the more-than-human is able to act upon the human by forming barriers to production, and therefore resisting its capitalisation (Castree, 1997; Harvey, 1996). This is achieved through the dialectic - the process of change through the conflict of opposing forces, in this case between nature and capitalism (*ibid.*). Harvey (1996) argues that capitalism will always try to overcome barriers in order to continue production, but in doing so the solutions found often create new barriers as nature resists commodification. Castree (1997) explores how natures are produced dialectically through a detailed examination of the North Pacific seal fur trade in the 19th Century. The material properties of the seals provided initial possibilities for capital, due to the sheer density of pelts that could be potentially turned into garments (*ibid.*). Yet, over time the seals' material properties also provided limits to the growth of the fur trade as seals were nearly hunted to extinction, due to it being difficult to differentiate between female and male seals and to accurately count the seals during their migrations. Castree (1997) argues that the limits of the seals' material properties placed upon production resulted in North Pacific regulation, with the aim to prevent over hunting, and therefore the seals can be seen as reworking society. This approach by Castree may be seen as problematic, as socio-ecological relations are portrayed as conflictual, and fail to acknowledge that they can also be beneficial. Castree overstates the agency of the seals, as it was ultimately society that decided they were a valuable resource that needed to be regulated so that seal fur garments could continue to be produced. Dialectic accounts seem only to allow the more-than-human to act if it is against commodification, which results in more-than-human phenomena having very limited capabilities, as all action is in relation to humans. Overall, dialectics is too crude a method for the understanding of the heterogeneous processes that form nature (Latour, 2005).

An alternative analysis of how nature is produced has been offered by scholars using Foucault's analytic of governmentality, with a focus upon how it is conceived, acted upon and managed (Rutherford, 2007). In his book *The Intemperate Rainforest* Braun (2002) draws upon Foucault's work that disrupts the stability of phenomena by approaching the body, sexuality and government as shifting configurations of discourse and practice. He applies these ideas to wilderness, which is often treated unproblematically, when it actually is deeply political concept and enables certain agendas to be enacted over others (*see p.13*). Braun (2002) examines the various social, discursive and political practices through which Canada's West Coast forests have been given meaning and have become a site of ideological struggle. He shows how the key actors, environmentalists and the government, involved in the contestation over the forest have constructed the forest as external to humanity, as a wilderness that needs protection. This construction reinforces the nature/culture divide and authorises certain actors to speak for the more-than-human, to defend it, while marginalising those groups that use the forest, such as forest workers and the Nuuchahnulth communities. Braun (2002) highlights how the state produced knowledges and representations of the forest that excluded local communities. For example, the Clayoquot Sound land use map, divided the forest up into sections, in which different levels of human activity were permitted offered little consideration to Nuuchahnulth practices or recognition of their sovereignty over territories. The state marginalised and excluded the Nuuchahnulth from the political debate and this could be interpreted as a form of neo-colonialism, whereby the Canadian state attempted to dominate and gain the territories of the Nuuchahnulth. Overall, this work provides a detailed account of how knowledges of nature are produced, contested and the effects a particular construction can have upon communities.

A Foucauldian analysis can potentially offer a more nuanced explanation for how natures are produced, due to power being conceptualised as productive rather than repressive. Differing sets of questions are asked when compared with a Marxist analysis. For instance, rather than asking: 'who rules?' and 'what is the source of that rule?', the focus is upon how different agents are assembled with specific powers and how different domains are constituted as governable (Dean, 1999: 29). Those applying Foucauldian analysis have focused upon the various techniques and practices that are used to produce knowledges about nature that enable the more-than-human world to become both an object for knowledge and a target for regulation (Bäckstrand 2004). For example, knowledges have been produced that suggest that nature is in a state of crisis, such as statistics that show dramatic declines in the numbers of certain species. This information becomes a truth that is disseminated by a range of institutions, circulating as power through individuals' self-monitoring and everyday practices (Rutherford, 2007). Importantly, power is pervasive and can be resisted through people not adhering or deliberately challenging prevalent discourses in their everyday practices. Preston (2012) applied a Foucauldian analysis to Australian outdoor educational programmes, finding that the students did generally internalise the environmental values that they were taught, enacting them through everyday practices, such as recycling and reducing energy consumption. The process of internalisation was not seamless, with individuals applying the values inconsistently and also ruptures appearing as some challenged them, by forming alternative values (*ibid.*). Thus, nature according to a Foucauldian analysis is socially produced by various knowledge producers forming power that flows through both the human and more-than-human world.

### *Co-production of nature*

One of the criticisms of socially constructed approaches to nature is that they often render the more-than-human lifeless, as people are considered as the only producer of nature. This ignores the capabilities of the more-than-human in shaping the lives of people (Hinchliffe, 2007). This section will explore the final standpoint taken up in this chapter, how phenomena co-produce nature. The lives of people have been and always will be entangled with phenomena, animals, plants, objects and materials, as we are ecologically dependant upon them for food, clothing and in innumerable other ways (Philo and Wilbert, 2000). The most recent theoretical approach to nature conceives people, animals, plants, objects and other things as co-producers, with each seen as having the capabilities to shape the world (Hinchliffe and Whatmore, 2006). In this research, phenomena are seen as having the capacity to affect and be affected by nature through spontaneous encounters (Deleuze and Guattari, 2000; Haraway, 1991). Thus, co-production is theorised here as a becoming that happens through encounters that cannot be thought or pre-exist, but happen when phenomena meet (Deleuze, 1994).

Scholars who have taken an Actor Network Theory (ANT) approach to nature as co-produced understand it relationally as a heterogeneous assemblage where multiple phenomena come together, including animals, plants, soil, people, technologies, concepts and discourses (Latour, 2005; Whatmore, 2002). The Cartesian divide between nature/culture collapses into a multidimensional tangle of political, economic, textual, technical, mythic and organic phenomena (Haraway, 1991). The assemblage of diverse phenomena enables natures to become through a process of putting together, arranging and organising relations and encounters. Knowledge is not considered as being solely constructed by humans, but by a range of phenomena. In essence, everyday objects,



memories, technologies, plants, animals, texts or any form of phenomena have the potential to assemble together, and potentially be transformed. Yet, assemblages of phenomena are often unstable networks that can quickly dissipate and can be part of multiple networks. Therefore, through ANT nature becomes understood as something that is continuously changing and dependant upon a range of phenomena, which is useful, as it captures some of the complexity of how knowledges about nature come into existence.

In *Hybrid Geographies* Whatmore (2002) uses ANT to rethink relations between nature, society and technology, they are considered to be so enmeshed that they blur into each other, therefore it becomes impossible to separate them. Whatmore regards more-than-humans and humans as hybrid forms, whereby no phenomena are purely natural or human. For example, Whatmore explores the hybridity of elephants by suggesting that they are made up of a number of phenomena, which result in them becoming a species. In particular, Whatmore focuses upon how elephants become through networks of science that are a heterogeneous assemblage of wildlife experts, technology, money, volunteers and genetics that standardise bodies and behaviours. Whatmore's topological approach does highlight how elephants (and potentially other animals) are saturated with meaning and situated in a particular context, which unsettles the exteriorisation of them as wild and natural beings (Hinchliffe, 2007). However, one of the problems with Whatmore's work like many ANT accounts of various phenomena, is that it is ontologically flat and placeless, which results in animal networks floating across space without adequate consideration for how they are embedded in place (Matless *et. al.*, 2005).

Ingold (2011) criticises ANT for not being lively enough, the use of entities, networks and assemblages he suggests result in meanings added or imposed on to phenomena. He

points out that ANT often by focusing upon things and how they are assembled forgets those objects that do not act- the material media, such as water, air and soil, in which living things are immersed and are experienced (*ibid.*). Drawing upon Ingold's (2011) critique I will not look at phenomena as isolated entities and I will pay special attention to how they relate to the air, soil and water. Barad (2007) develops a co-productive approach that frames encounters around intra-active becomings moving away from inter-active relations that assume there are distinct entities before encounters that effect each other (Rautino, 2013a). Barad's (2007:112) work reconceptualises how we consider agency as "... a matter of intra-acting; it is an enactment, not something that someone or something has." (*see p.54 for discussion of children's intra-actions*). Materiality is not a separate or fixed entity, but it is dynamically produced-in-practice and becomes understood as 'not a thing, but a doing' (Barad, 2007: 151). Therefore, Barad's (2007) work can be used to criticise ANT approaches that often present animals, plants, people, ideas, objects and other matter as entities that are isolated and individual things that have agency to act upon others. Instead, things should be thought of as phenomena whose agency is related to others and they emerge through specific intra-actions, when co-emergence happens they come into existence (*ibid.*). Over time, the process of co-emergence produces boundaries and fixity that form an entanglement of matter and discourse shaping our imaginations and practices. For example, when an object is encountered in the present its materiality is woven with earlier ideas, actions and experiences. Barad (2007) offers ways of negotiating between discursive and embodied enactments, as her theorising embraces the entanglements of bodies and materiality. In this thesis, materiality will be seen as not something that is merely an end product of discourse, but as co-constituting ideas and practices.

Co-production approaches to nature do have their weaknesses, as they fail to adequately conceptualise the unequal power relations that exist between different phenomena (Laurier and Philo, 1999). The co-production of nature effectively 'levels up' more-than-humans to the status of humans and the humans are 'levelled down' to the status of more-than-humans (*ibid.*). For example, ANT approaches suggest that actors do not hold power, instead they become powerful through their ability to enrol others into a network and this occurs by translating the interests of others into their own (Latour, 1987). One phenomenon is unable to dominate another, as phenomena in a network are understood as having free association by being able to join/leave (Law, 1992). However, the ability of more-than-humans to act is often diminished because humans have far more power to direct the course of culture-nature relations (Castree, 2002). For example, through a study that examined the three way encounters between otters, wildfowl and humans, Matless *et. al.* (2005) found that the appearances and behaviours of otters and wildfowl differed, resulting in the two species being treated differently. Otters tend to be seen as individuals and given anthropocentric characteristics, whereas wildfowl are seen as an aggregated migratory body, making it more acceptable to hunt wildfowl than otters (*ibid.*). Although an animal can shape how a person acts, the example shows that when people encounter animals they tend to do so on unequal terms. In reference back to the previous section on *conservation* (see p.15) it is often people who ultimately can choose whether a species lives or dies, and these decisions are often based upon how the animal appears, whether it is seen to have anthropomorphic characteristics and charisma (see Lorimer, 2015).

Social scientists have tended to treat animals as part of nature or the environment, rather than considering animals as constitutive parts of society (Philo and Wilbert, 2000). Donna Haraway's (2008) book *When species meet* is one of the few works that provides an in-

depth account of how animals and humans become entangled, co-shaping each other. For Haraway (2008), all species, including humans, become through encounters with other species, and from these becomings species learn how to negotiate others and how to be in the world. Haraway challenges how scientific knowledges attempt to fix the identities of species. She uses Althusser's notion of interpellation, the production of subject-object distinctions, to show how people attempt to fix becomings and that they have intended consequences for life and death, health and illness, longevity and extinctions. For example, when stray cats and dogs in urban settings are suggested to be feral this is a specific way of making a claim on those who are fated to live or die. However, Haraway (2008) argues that these fixed identities are resisted, as when species are assembled, each one is a participant in an act of becoming that is shaped by all those phenomena that it encounters. One of the examples given is how cats become through encounters with humans, processed food, rats, birds, other cats and materials. Haraway's work does highlight that more-than-human phenomena have capabilities to shape others and co-constitute humans, and she does seem to destabilise claims of human superiority over other living things. Thus, her work challenges any notion that more-than-humans are merely matter that we mould into our own image; instead humans do not stand above or outside of more-than-human (Weisburg, 2009).

Haraway's account has been criticised for being depoliticised and inadequately dealing with power relations that exist between more-than-humans and humans (Weisburg, 2009). Haraway (2008) claims that animals have agency even in the most oppressive of situations, such as factory farming and laboratory experiments. Weisburg (2009) asks how those animals that are restrained, drugged and/or confined can really challenge those humans that are acting upon them. Weisburg (2009) goes on to argue that by suggesting

that animals have agency, and are able to resist, even in the most repressive situations, in fact legitimises the structures that enable acts of violence and cruelty to be perpetuated against them. Also, Haraway (2008) has been accused of centring humans in her work by focusing upon situations where power-relations appear to be uneven between animals and people, such as training dogs, experimenting on and farming animals (Weisburg, 2009). In other words, in Haraway's examples humans are often the users and the more-than-humans are the used to fulfil human needs and desires. Thus, Haraway (2008) fails to adequately consider that human relationships with animals can be manipulative, as we seek to mould their bodies through reproduction and training.

This thesis will draw broadly upon co-productive approaches, but also it acknowledges their weaknesses and attempts to reduce them through careful consideration of how they are used. More-than-human phenomena will be seen as having capabilities to shape others and co-constitute humans (Barad, 2007; Haraway, 2008; Whatmore, 2002). Whatmore's (2002) co-production approach is drawn upon in this thesis through an exploration of how phenomena are (dis)assembled. However, through extensive ethnographic fieldwork the account given in this study is situated and attempts to capture the complex relations that emerge, due to the unique geographies that exists in each of the outdoor learning sites. In this research, outdoor learning spaces are seen as being formed from heterogeneous assemblages that are in flux, whereby multiple phenomena are (dis)assembled, including animals, plants, soil, people, technologies, concepts and discourses. These phenomena, through co-production, are seen as having capabilities to shape the actions of both children and adults, and therefore it is acknowledged that more-than-humans co-produce learning and practices (*see chapter six*). Co-production also offers a way of escaping from the reification of more-than-humans as natural and outdoor learning spaces as wildernesses

supposedly free from social relations. However, as highlighted earlier on a problem with Whatmore's approach is that she fails to capture the liveliness more-than-humans. To attempt to capture more liveliness the work of Barad (2007) is also drawn upon as a way of framing entanglements of bodies and materiality. Materiality will be seen as not something that is merely an end product of discourse, but as co-constituting ideas and practices.

### *Combining co-production, Marx and Foucault*

There have been attempts by some Marxist and Foucauldian geographers to combine socially produced and co-produced approaches to nature. Castree (2002) highlights how ANT and Marxism are often thought as antithetical to each other, due to their ontological differences. Yet, in terms of the theorisation nature there is an important similarity between ANT and Marxist approaches and that is they do not fix it as a concept, but recognise that it transformed over time. Although, the theoretical mechanism used to explain the reason for changing natures over time differs between the two theories. Through Marxism it is the dialectic between capital and the more-than-human that brings nature into being, whereas with ANT it is encounters that happen when phenomena are (dis)assembled. Castree (2002) points to the analytical advantages gained if aspects of ANT can be accommodated integrated into Marxist theory. One advantage that Castree suggests is that if power is seen as a relational achievement, rather than radiating form from a single social system, it becomes possible to locate the multiple points of power. A relational view dismisses arguments that capital is totalising and the sole constructor of nature. Castree (2002) argues that using a network approach is more holistic than the Marxist dialectic, as it traces a range of forces that bring nature into existence by tracing and mapping them. However, where Castree differs from ANT scholars (such as Latour

and Callon) is that capitalism exists, and is an important and at times overwhelming force in the production of nature. There is unequalness in Castree's attempt to merge the two contrasting ontologies of ANT and Marxism, as when looking at assemblages of nature(s) still is placed as a central explanation before such a mapping takes place. Castree fails to be fully open to the potentialities and possibilities of the more-than-human and unexpected events that bring natures into existence. Overall, capital still comes to dominate networks and the more-than-human world is essentially reduced to a commodity.

Foucault's work on bio-politics is often interpreted in a humanist vein, with human power conceived as being totalising over all life (Asdal *et. al.*, 2017). Recently, geographers writing in critical animal studies have attempted to bring together Foucault's scholarship on power and more-than-human geographies (Holloway *et. al.*, 2009; Srinivasan, 2011; Asdal *et. al.*, 2017). Holloway *et. al.* (2009) examines the impact of bio-power upon the vital life processes, nutrition, reproduction, illness and death of livestock, whilst Srinivasan (2011) does a similar analysis exploring dogs in the UK and India. Both papers do effectively highlight how bio-power shapes animals, they focus throughout upon human centred relations (e.g. breeding, welfare) and fail to consider how the animals affect humans. Therefore, both papers through their interpretation of Foucault's work present the more-than-human as inert and at times are reduced to being the same as humans. By applying Foucault's notion of bio-power in this way to more-than-humans results in them being anthropomorphised, as we assume that more-than-humans respond in similar ways to humans (Twine, 2010).

When Foucault's concept of bio-politics is often applied to the body it is conceived as a bounded separate entity from the more-than-human world. However, bio-technology and

medical practices today have dismantled and recombined it with an technology and animal bodies (Haraway, 1991) (*see later discussion p.33*). Also, the work of Actor-Network and Non-Representational Theorists, which has been explored throughout this chapter, shows that the more-than-human have capabilities to act (see Haraway, 2008; Hinchliffe, 2007; Latour, 2005; Whatmore, 2002). These ideas have been used to shape a theorisation of bio-politics that is not just about humans. Bio-politics has been applied in a way that acknowledges more-than-humans as capable of shaping humanity through the formation of assemblages that allow life or prevent it from flourishing (Asdal *et. al.*, 2017; Hinchliffe, 2016; Lorimer, 2017). For example, Lorimer (2017) explores re-introductions of keystone species, in this instance wolves and de-domesticated cows, and how these animals are seen as 'ecological engineers' who rebalance supposed dysfunctional ecologies. He frames these re-introductions as a political technology, with those animals involved disciplined as individuals and governed as species, in order to transform nature reserves into a desired state. Yet, Lorimer (2017) shows how these re-introduced animals are not passive bodies, and they respond in unexpected ways, including unwelcome interactions with other animals, faster than anticipated population growth and starvation, with the desired outcome not achieved. From this view bio-power is much less about moulding individual bodies and more about understanding flows of power and its effects. Therefore, during this study I will not just focus upon how children's bodies respond to disciplinary power, will look at how it more broadly (dis)connects to more-than-humans and how they become involved, allow connectivity and/or prevent flows of power.

This thesis moves away from fixed ideas of what nature is to viewing as being co-produced through encounters between numerous phenomena that form heterogeneous assemblages. By moving away from fixed representations and definitions of nature, it is



possible to consider the numerous potentialities that more-than-humans have (Hinchliffe, 2007). Throughout this study I will be open to more-than-humans becoming in unexpected ways and therefore I will know the world in a looser way (*ibid.*). Nature and society will be considered to be so enmeshed that they blur into each other, therefore it becomes impossible to separate them. More-than-human phenomena will be seen as having capabilities to shape others and co-constitute humans, and therefore it is acknowledged that more-than-humans co-produce learning and practices (Barad, 2007; Haraway, 2008; Whatmore, 2002). In order to respond to concerns that co-production approaches are placeless and lack liveliness an extensive ethnography is used a way to situate this study and it attempts to capture the complex relations that emerge between more-than-humans-people. To attempt to capture liveliness the work of Barad (2007) is also drawn upon as a way of framing entanglements of bodies and materiality. Materiality will be seen as not something that is merely an end product of discourse, but as co-constituting ideas and practices (*ibid.*). Therefore, materiality will be viewed as an enabler, whereby it shapes children and adult's thoughts, practices and performances towards more-than-humans.

### **Chapter 3: What is childhood? And how do children learn?**

“Childhood the condition of being a child; the period of life before puberty” (Collins English Dictionary, 2003: 294)

“Childhood is defined here as beginning at birth, and ending gradually and uncertainly” (Alderson, 2013:8).

“...to think more profitably of childhood(s) rather than of a singular and monodimensional status” (Jenks, 2005:6)

Figure 2: Conceptualisations of childhood

In popularist narratives of childhood, like the dictionary definition in figure 2, it is often something that is easily definable by age and bodily appearance. Thus, childhood is often considered in a biological and chronological way, as a time before puberty, and through this lens childhood is a particular state of physical and mental being. Childhood is seen as a structural process of becoming, whereby children undergo a process of transformation until they become competent as adults (Jenks, 2005). This way of seeing childhood as a developmental stage is popular in society and children are frequently ordered according to their age, at school, their attainment of rights and responsibilities. Children are commonly perceived to be incompetent and knowing little about the world, and these ideas allow adults to act upon children's behalf's as they are often seen as knowing what is best for children (Gagen, 2007). For example, UNICEF (2012) in the United Nations Convention on Rights of the Child (UNCRC) suggest that a child is defined as a person under the age of 18, and that they should be educated (article 28), protected from all types of harm (article 19) and be able to play (article 31). However, UNICEF's characterisation of the child hides the complexity of childhood, across both minority and majority worlds as well as the boundaries between adult and child are permeable.

Social scientists have found childhood to be more complicated and nuanced than simply a fixed state of bodily and cognitive being (Alderson, 2013; James and James, 2008; Jenks, 2005; Prout, 2005). The statements in figure 2 suggest how childhood should not be thought of a singular universal state that ends at a fixed age, but instead it needs to be conceptualised as multidimensional and uncertain. Therefore, this chapter is not looking to define childhood in a fixed way, but to explore multiple conceptualisations of childhood that have emerged from social sciences in order to grapple with its complexity and messiness. Childhood as a complex concept will be examined in relation to power, embodiment and ways of learning/knowing. It will set out how adults act upon children and attempt to mould their lives by constructing childhoods with a focus upon a particular conceptualisation- the natural childhood. The review moves on to examine how adults attempt to shape children's bodies through bio-power with discourse creation, disciplinary practices and pedagogies. Before looking at the role that embodiment plays in learning and how it shapes children's lives. The review finishes by exploring the ways that children learn beyond the discursive through experiential, relational and more-than-social pedagogies

### *The child development paradigm*

Child development theories continue to influence how childhood is viewed (Alderson, 2013). They are embedded in education, they are used to inform curriculums, design appropriate age related activities and assess/compare children to the norm (Aiken *et. al.*, 2007; Alderson, 2013). For example, Piaget's child development model, based upon observations of children, it suggests that they should develop in stages and exhibit certain cognitive abilities if they fit the norm for their age (Gagen, 2007). The child is turned into a subject, they are measured, observed and categorised in order to ascertain whether their

capabilities fit into the desired norm for their age (*ibid.*). Through the child development paradigm children are considered as immature, incompetent and dependant upon adults (Qvortrup, 2009). For example, these ideas can be seen in Vygotsky's concept of the zone of proximal development, whereby with appropriate assistance a child is believed to reach beyond their current understandings (O'Brien, 2009). The affects of such ideas is that they "essentialize children to become-the-same (as us) with limited possible futures" and "deny(ing) them the possibility of becoming-other" (Aitken *et. al.*, 2007: 5). In other words, child development theories have been critiqued as rendering children lifeless, portraying children as incomplete adults and as empty vessels to be filled with adult meaning (Alderson, 2013; James and James, 2008).

#### *Constructing childhoods: The natural childhood*

Work in the New Social Studies of Childhood (NSSC) has shown that childhood is not a universal stage, but it changes across both time and place, with numerous childhoods exist and are dependant upon their unique context. Through this perspective childhoods are seen as socially constructed, which has been shown through the historical analysis of British childhoods since 1800 (Hendrick, 1997). In the Victorian era, these included the factory, the delinquent, schooled and welfare child composed by middle-class adults, and this group continues dominate the production of childhood today (*ibid.*). The ideal of childhood emerged in the 18th Century and has been strongly related to the ideas of Rousseau. He introduced the conceptualisation of the child as a vulnerable, needing to be separated and protected from adult worlds (Hultquist and Dahnburg, 2001). Rousseau's ideas about childhood are still present today having been rehearsed and adapted over time (Hultquist and Dahnburg, 2001; Taylor, 2011). Taylor (2011) highlights how notions of purity and vulnerability of nature are echoed in discourses that surround childhood and can

be found in Rousseauian constructions of children as wild/innocent. The construction of vulnerability allows for adult domination of both more-than-humans and children, but if they resist/challenge the adult world then they are seen as wild, enabling power to be mobilised to control them. Therefore, when vulnerability and purity are woven together they suggest that adults are more capable than children, enabling adults to control them and act in their best interests (Taylor, 2011).

From Rousseauian constructions of childhood and nostalgic imaginings of children playing outdoors emerges a powerful construction of childhood- the natural childhood (Holloway and Valentine, 2000). The natural childhood is an imagining formed by adults connecting to idyllic memories of playing outdoors used to create a childhood where children are supposedly free to roam in outdoor spaces, particularly rural localities (*ibid.*). The construct of the natural childhood is cemented through the circulation of the same motifs that become naturalised and accepted as truths (Vanderbeck, 2006). For example, the representation of the child playing freely in rural spaces is circulated through children's literature, such as Enid Blyton's *Famous 5* and Frances Hodgson-Burnett's *The Secret Garden*. The natural childhood can also be clearly seen in more recent debates about children as disconnected from nature with authors often harking back to the past (Louv, 2011). It is perceived that children in past generations had sustained contact with the more-than-human through outdoor play, as Louv (2011:3) purports '...a reunion of humans with the rest of nature'.

Numerous reports and media representations have portrayed children living in Britain as unhappy and stressed, with headlines reading 'Child mental health crisis worse than expected' (The Guardian, 29 April 2016) and 'Mental health crisis among children' (The

Telegraph, 22 January 2017). These accounts are dominated by arguments suggesting that childhood is in crisis and that children have a plethora of emotional and physical problems ranging from depression to obesity, due to over exposure to social media, poor lifestyles and lack of connection to nature. In many ways childhood throughout the past century can be characterised by a cacophony of moral panics, including children spending too much time indoors (Woodyer *et. al.*, 2015) and the natural childhood is a reaction to these concerns. One of the common reasons given for children's supposed emotional and psychological problems is that they have become disconnected from the natural world (Louv, 2004; Gill, 2007). These debates are part of a broad expansion in the medicalisation of children's behaviour that is perceived to be abnormal, such as ADHD and Asperger's syndrome (Conrad, 2007). Child mental and emotional health issues have been constructed as broader symptoms of Nature Deficit Disorder (NDD), whereby the child is seen to be unhealthy unless they regularly encounter nature (Louv, 2005). NDD suggests that if children do not spend regular amounts of time outdoors then they will be unable to connect to the more-than-human world (Malone, 2015; Wake, 2008). Through this construction children are separated from the unsuitable adult social worlds and placed in the pre-social context of nature, where they can be managed and moulded into competent adults (Prout, 2005).

Louv's (2005) work reflects broader ideas about the connection between nature and children as common sense and a fact. Children frequently declared to have an affinity for nature and are inherently connected to it, as nature is portrayed as nurturer and the child as protector of it (Taylor, 2013). Thus, children are often represented as future environmental stewards connecting to ideas of human domination over more-than-human lives and reinforcing nature-cultural duality (*ibid.*). These ideas surrounding nature and

childhood become self-fulfilling truths that are often unchallenged in people's everyday lives and can be understood as a regime of truth (Foucault, 1991). Regimes of truth are those types of discourse that society allows to function as true, whilst providing the education and techniques for individuals to identify them as such (*ibid.*). In terms of the natural childhood, it shapes a way of thinking about the more-than-human world and children, as innocent, wild and pure, which informs practices to produce environmentally conscious subjects.

Ideals of purity, within the natural childhood, reflect Cartesian conceptualisations of nature with more-than-humans and children separated, and therefore potentially disconnected. It is assumed that past generations had a closer and more intimate relation with the more-than-human world forgetting a long history of environmental degradation and disconnectedness (Dickinson, 2013). The idea that past childhoods were idyllic and the time that children spent outside was always beneficial for them has been contested by historical studies (Karsten, 2005; Pooley *et. al.* 2005). Childhood experience becomes universalised to that of white middle-class children who grow up in the minority world (Dickinson, 2013). It forgets that children grow up in a range of contexts, and for some children, no matter their background or experience, more-than-humans are frightening and potentially to harm them (Hordyk *et. al.*, 2015). These debates ignore how all more-than-human and human life is entangled and it is impossible to *divide* (*see previous discussion of co-production p.29*). Placing children outside of nature reduces the possibilities for more-than-human-child relations, and is a major failing of outdoor learning literature.

#### *Disordered childhoods?*

Children's behaviour is increasingly portrayed through a psychological lens with those who are seen to be disruptive and/or boisterous labelled with a range of conditions,

particularly Attention Deficit Hyperactivity Disorder (ADHD) (Ecclestone and Hayes, 2008; Furedi, 2004). There has been a shift in western societies towards childhood towards a therapy culture, whereby therapeutic language and practices have become normalised and part of everyday life (*ibid.*). For example, stress, anxiety, addiction, trauma, disorder and healing have all become words used to describe lives suggesting that people are struggling to cope with a range of experiences (Furedi, 2004). Furedi (2004) argues that this marks a significant shift in our cultural imagination towards the pathologising of negative experiences that would have been considered normal. Drawing upon the work of Foucault, therapy has been explored as a technique to regulate the self, which has been created by the psycho-sciences (Rose, 1999). Psycho-sciences have created regimes of truth that have led us to accept the self as contained within the individual (*ibid.*). Individuals are seen as being able to improve their wellbeing if they allow therapeutic interventions into their lives, and they become open to therapy through the creation of dispositions that are welcoming towards therapeutic practices (Rose, 1999). For example, powerful therapeutic imaginaries, such as restorative power of fresh air and connecting with the natural world, are circulated through the media, education and literature encouraging individuals to regulate themselves and manage their health (Dawney, 2011).

In particular, children attending school have been the focus of a range of therapeutic interventions that aim to train them to be open to therapeutic discourses, self-regulation and potential interventions (Ecclestone and Hayes, 2008). Forest schools and a host of other interventions have targeted children's emotions attempting to reconnect them with nature across Europe, North America and Australia (Ecclestone and Hayes, 2008; Taylor, 2013). As Harden (2012) highlights these strategies focus upon control and awareness of



personal emotions, so they can be understood as therapeutic imperatives that have the possibility to limit the individual. This fosters a particular ontology of what it is to be human, one whereby emotion is seen to govern the body and outdoor learning spaces represent trend in education towards offering quasi-therapeutic experiences (*ibid.*). From this perspective more-than-human-child relations are translated teleologically, where they served a distinct purpose to socialise and develop children in particular ways (Rautio, 2013b). Thus, engagement with the more-than-human is seen as an end in itself and such encounters are reduced to an instrumental activity with a predetermined significance known by adults (*ibid.*). By constructing children as being emotional disordered this enables adults to intervene in children's lives and restrict their potential becomings.

Geographers have explored the notion of a place as therapeutic, whereby spaces have been modified or specially created to promote wellness (Gesler, 1992). This work includes explorations of specific places, such as gardens, national parks and woodlands, and why they become considered to be therapeutic and they are socially constructed (Gesler and Kearns, 2002; Milligan *et. al.*, 2004; Milligan and Bingley, 2007). Spaces are seen to be therapeutic if they provide a distance from peoples everyday routines, an opportunity to be closer with the natural world and time for stillness (Conradson, 2007). By creating an opportunity for separation it is believed that individuals gain a heightened consciousness and their bodies become more closely related to the world around them, as they supposedly disconnect from the stresses of their daily lives (*ibid.*). These ideas are based upon the cultural assumption that the key to wellness is stillness, which is achieved in places that are beyond people's usual everyday lives. However, such assumptions rely on the universalisation of experience that everybody will find being in such spaces, as beneficial and this ignores the real fears that some feel when within them (Milligan and

Bingley, 2007). To imbue any single place with the qualities of wellness can misrepresent the complex relationship between people and place (*ibid.*). These critical insights will be drawn upon when exploring how outdoor learning spaces are constructed whether they are therapeutic places.

### *The child as a social actor.*

Those working within the NSSC paradigm have conceptualised children as agents and participants in social life whose voices and experiences can be learnt from (Corsaro, 2005; James and Prout, 1997; Jenks, 2005). Through this work children have been positioned as autonomous self-determined subjects who have agency to act independently of adults and who play an active role in shaping their own childhoods (James and James, 2008; Jenks, 2005; Gallagher, 2006; Kjørholt, 2007). Children are seen as having understandings about the world and that if listened to can be learnt from (Corsaro, 2005). Therefore, children are able to represent themselves and they do not need adults to speak on their behalf (*ibid.*). From this perspective children are not passive, but appropriate adult worlds and produce their own cultures (Corsaro, 2005). Through this lens children are considered to be social actors who co-produce their own childhoods (Alderson, 2013). Empirical studies have provided examples where children have the capacity to determine their own lives and those of others through both individual and collective actions (Beazley, 2003; Jeffery, 2012). For example, Beazley's (2003) study of street children in Yogyakarta, Indonesia, found that children had created a strong community and culture. This group of children acted beyond the conceptualisation of childhood offered by the United Nations Convention on Rights of the Child (UNCRC) (*ibid.*). Therefore, showing that children do have agency and are involved in the production of their own and others' childhoods'.

The child as agent model has been criticised for ignoring that some children are unable to act autonomously through assuming that all children have similar capabilities (Benwell, 2013; Lee, 2001). Lee (2001) argues that children have different physical and mental attributes to adults, and therefore they are not always able to act autonomously from them. The model also ignores that children are inherently more vulnerable to exploitation than adults (Bluebond-Langer and Korbin, 2007). Therefore, children need to be considered as being different from adults, as having more limited agency at times, in order to protect them from all forms of abuse. Some scholars have moved beyond simply framing children as autonomous agents by positioning them in a more complex way, whereby children can be simultaneously enabled and constrained, approved of and rejected (Dyck and Kearns, 2010). It could also be argued that work within the NSSC has predominantly emphasised agency over structure, and ignored broader social, economic and political constraints upon children's lives (Ansell, 2009). For example, Juris and Players (2009) found that youth activist groups that campaigned for global justice reproduced social structures and young people from working class backgrounds were generally absent from these groups. Therefore, the universalisation of agency ignores intersectionality, how markers of social difference, gender, race, sexuality, age, socio-economic background and so on play a role in the ability of a person to act (Brah and Pheonix, 2004).

### *Intergenerational relations*

A critique of the NSSC is that the focus upon childhood has emphasised "generational discreteness and difference such that disrupture and discontinuity between adults and children is stressed at the expense of continuity" (Kjorholt, 2003: 264). Hopkins and Pain (2007) argue that a focus upon childhood in geography presents a skewed view of a person's life course, and that by compartmentalising age groups in isolation neglects

important features of identity. At times children's geographers have reinforced intergenerational separation, difference and conflict between children, young people and older generations (Vanderbeck, 2007). Whilst, forms of relations that are not antagonistic, such as support and protection, have been overlooked (see Benwell, 2013). In order to move away from a generational approach some scholars have understood children's lives as produced through intergenerational interactions with others (Hopkins and Pain, 2007; Vanderbeck, 2007).

Hopkins and Pain (2007) set out to create more relational geographies of age, whereby age is produced in the interactions between different people, which makes it more difficult to talk about geographies of children, young people or anyone else in isolation. Intergenerationality, refers to the relations and interactions between generational groups, it is presented as a foundation to this theorising of more relational geographies of age (*ibid.*). Work using intergenerationality has shown that identities for all generational groups are dynamic produced through interactions with others and involve the transmission of values and knowledge across generations (Riley, 2009). Riley (2009: 257) found farming families had "a multi-directional set of generational relations" that existed with cultural practices flowing across and between generations. This work is particularly important as it recognises that children are not just passive receivers of practices they also have capabilities to shape others. Scholarship on relational geographies of age also recognises that rather than people's lives following fixed and predictable life stages, people live dynamic and varied life-courses, which in themselves have different situated meanings (Hopkins and Pain, 2007). Therefore, the notion that childhood is a fixed and isolated stage that we grow out of is challenged, and instead it is understood as a process that is related to and shapes us throughout our lives (Valentine, 2003). Thus, young people do

not suddenly transform into adults, but go through a number of complex transitions that result in a fragmented adult identity (Punch, 2002; Valentine, 2003; Thomson, 2008). Overall, a move towards relationally geographies of age has helped explore child/adult relationships in a more fruitful way by orienting away from binary oppositions that reinforce conflict.

Horton and Kraftl (2008) have critiqued the use of intergenerationality as an explanatory tool for social geographies. They question the explanatory power of the concept of intergenerationality, due to it smoothing the differences between children and adults so that it becomes difficult to talk about any generational group as being distinct (*ibid.*). Horton and Kraftl (2008) draw upon the work of Jones (2001) to exemplify how children are different from adults and that by viewing children as fully related to adults ignores that they can and do live separately from people of other ages. Instead, they call for a focus upon differential relations that are marked by disjunctures between children and adults, which have the effect of disrupting and potentially closing down social relations (*ibid.*). Bearing these criticisms in mind, a relational approach will be taken in this research, but one that acknowledges childhood as a distinct stage in life.

In this research childhood is understood as produced through relations with adults, other children and more-than-humans and these relations have distinct affects upon each child. Relations that each child experiences in their life are produced from heterogeneous assemblages that change over time, as phenomena come into and dissipate from it, shaping their childhood. From this understanding each child is seen as having a unique childhood, and therefore it is recognised that children are different and distinct with each child's experiences, knowledges and practices varying. I will explore, through the analysis

chapters, the multiplicity of relations that take place between child-adults, child-child and more-than-human-child each and how each relation plays a part in shaping childhood. I spend an extended amount of time with my participants so that some of the phenomena that shape their lives are revealed to me through my engagements with them. The position taken will be open to both (non)relatedness of different generational groups that are involved in outdoor learning, whereby age can be structuring, but also children's identities can exceed it.

Also, currently work on intergenerationality fails to go beyond family life (Gagen, 2016). This is despite the numerous interactions and relationships outside of families that are formed across generations, including relations between children and teachers, care-givers, grandparents and other adults in the community (*ibid.*). In particular, Gagen (2016) calls for work to consider the way that spatial structures facilitate or obstruct these relationships. This study will go on to answer Gagen's call and provide explorations of intergenerational relations between children, educators, adult helpers and family members. The application of inter-generationality by children's geographers often considers how power, knowledge and culture flows between children and other adults, but it often forgets to pay attention to the ways that children relate to each other. This research will explore those power relations that emerge between children, but it will recognise them as complex, as children can act in ways that consciously challenge or reinforce social regulations (Holdsworth *et. al.*, 2017).

#### *More-than-social childhoods*

Discursive approaches are useful in acknowledging some aspects that shape children's lives, but they only form a partial picture and they fail to consider the involvement of

encounters with a range of phenomena. Work in the NSSC paradigm has been critiqued for reducing childhood to a social construction centring on the premise of child agency (Kraftl, 2013b). Critics have argued that a focus upon human centred agency fails to address the complexity of relations that happen in the formation of childhoods (Kraftl, 2013b; Benwell, 2013; Oswell, 2013; Wyness, 2006). Kraftl (2013b) calls for children's geographers to move beyond voice, agency and politics, although he does not dismiss the child as a potentially capable agent, he suggests that more-than-social relations need to be explored. Researchers engaging in childhood research have begun to engage with debates in human geography surrounding materialism, and this has opened up new enquiries into the interconnectedness of more-than-humans and children (Rautio, 2013a). By examining material-child relations in the context of everyday shifts thinking to how things matter to children, rather than interpreting symbolic meaning, as well as from knowing about the world to knowing with it (Kraftl, 2013b).

Material-child relations have been explored through the concept of affordances (Gibson, 1979), whereby actions are defined by relations between phenomena (Linzmayr and Halpenny, 2013; Waters and Maynards, 2010). For example, trees afford climbing, but the affordance is neither the child nor the tree, but the relationship between them (Linzmayr and Halpenny, 2013). Through this perspective particular features within a space are seen to stimulate childrens play, such as loose objects, sticks and stones can be used to create/build with (Waters and Maynards, 2010). Linzmayer and Halpenny (2013) use Vygotsky's theory of social-cultural development as a framework for understanding the social-cultural influences upon affordances between more-than-humans and children. Vygotsky (1978) suggests that learning occurs when social mediators provide a bridge between the individual and the wider world. The mediators he suggests provide

scaffolding (or gradually reduced support), they are seen to be more knowledgeable and assist children as they learn how to do activities independently (*ibid.*). Linzmayer and Halpenny (2013) use the following example of a child walking across a log at first with the support of an adult and as they become more confident they are able to do so without assistance. They suggest that the adult has helped the child discover and master the skill of maintaining balance, whilst walking along a log (*ibid.*). Through this perspective the more-than-human is seen as something that we do not encounter, but we are introduced to through our social and cultural structures. Adults are seen here as shaping the child as an adult in becoming, whereby the child is framed as incompetent and unable to discover the world without adults mediating it for them.

A differing approach to material-child relations examines the encounter between them, and how both are involved in the co-shaping of each other. Rautio's (2013a) work helps us rethink our connection to nature through the practice of carrying stones. We may be drawn to a stone, due to its particular aesthetic or/and tactile qualities and therefore the stones in themselves have particular capabilities to shape our behaviour. This challenges our understanding of how we engage with the more-than-human from interacting, with turns taken in the affecting of each other; to intra-action with phenomena co-emerging simultaneously to come into being because of their encounter. Änggård (2016) shows how phenomena change each other through intra-actions in which children, matter and discourses are entangled. During observations of play activity she finds that materials can take on new unexpected meanings or at times they are attributed with symbolic meaning because it is reminiscent of something else (*ibid.*). Many theorisations of play omit how objects themselves shape children's experience of the world as they become connected to their bodies (Harker, 2005; Woodyer *et. al.*, 2015). For example, Winnicott's (1971)



definition of play as a transitional space makes links to the material world, but more-than-humans are seen as a transitional object that symbolises something else. Through this lens more-than-humans become something that is assigned human meaning ignoring how play events are co-produced between numerous phenomena. More-than-humans do have the capabilities to shape events, as intra-actions between matter and children provide opportunities for construction or resistances that enable/prohibit action (Änggård, 2016). Änggård's (2016) work shows how children's lives are entangled with the more-than-human and that it can have real affects upon their mobility, relationships, experiences and understandings of/in the world. Thus, more-than-human-child relations involved in play are reconsidered, shifting the concept away from it as a function in children's development to how phenomena come together in such events (Änggård, 2016; Harker, 2005).

Children's geographers have begun to look at how animal-child lives are entangled (Taylor and Pacini-Ketchabaw, 2016; Tipper, 2011; Malone, 2015). Malone (2015) through examining the intra-action of child-dog relations, in slum communities in La Paz, Bolivia, are more akin to a friendship than ownership showing that their lives are deeply connected. Animals should not be seen as an optional aside in children's lives, they are integrally important within them, and therefore to understand everyday experiences of childhood we need to pay close attention to animal encounters (Tipper, 2011; Malone, 2015). Children, through their bodily experience and social construction of childhood, are often seen to have an aesthetic-affective openness towards the more-than-human (Harker, 2005). However, when children tend to grant the more-than-human with agency through expressing attachment and anthropomorphising it these actions are frequently seen as an example of a child's incompetence and supposed lack of understanding about the world (Horton and Kraftl, 2006; Tipper, 2011). Thus, children see the world differently from

adults even though their bodies function and encounter the world in a similar sensory way (Horton and Kraftl, 2006).

Child-animal encounters can be highly complex triggering a mix of affects 'bubbling in and out' that are often contradictory and have bodily effects (Lorimer, 2014: 196). Taylor and Pacini-Ketchabaw (2016) examine children's experiences of co-habiting with animals, in early years childcare centres in Vancouver and Canberra. In Vancouver children encountered raccoons generating endearment, entertainment and surprise at how the animals manipulate toys and playground equipment. However, there were other times when children found the raccoons frightening, particularly when they blocked the classroom door. This example shows the capabilities of animals in shaping children's ideas and behaviours (*ibid.*). Taylor and Pacini-Ketchabaw (2016) suggest that raccoons' human-like behaviours invited children's identification with them sparking a new sense of interspecies kinship, and through 'ethics of recognition' children recognised themselves in the face of the other and were moved to care about them. In Canberra, children encountered kangaroos as they took part in regular walks around the university campus, over time children recognised the specificities of animal bodies making sense of them through performances (*ibid.*). In one instance children came across a dead kangaroo killed by a car, the affects of this event bubbled out into children's actions, as some began to lie on the floor, whilst others pretending to be dead kangaroos with others coming to their assistance (Taylor and Pacini-Ketchabaw, 2016). These animal-child encounters show how their lives become entangled and the importance that they have in everyday lives, challenging notions of disconnectedness and opening up opportunities for more-than-social learning that will be explored in the next section.

## How do children learn?

Human learning presupposes a specific social nature and a process by which children grow into the intellectual life of those around them (Vygotsky, 1978: 88).

Fortunately, most human behaviour is learned observationally through modelling from others: from observing others one forms an idea of how new behaviours are performed. (Bandura, 1977: 22)

Give the pupils something to do, not something to learn; and the doing is of such a nature as to demand thinking; learning naturally results (Dewey, 1966:154)

Figure 3: Definitions of learning.

How people learn? Is a question that has been posed over the past 2000 years, and can be traced back to the Greek philosophers, Socrates, Plato and Aristotle (Gary and MacBlain, 2015). The debate between these philosophers was framed around whether knowledge of the world is innate and found within us through self-reflection (rationalism) or from outside ourselves through our senses (empiricism) (*ibid.*). These two philosophical positions are still recognisable in current learning theories, as debates continue to rage about how we learn? and what learning is? Although, over the past century there has been a significant shift away from philosophical propositions to the development of a range of empirical theories that claim to explain specific aspects of learning (Gray and MacBlain, 2015). Theories of learning applied in schools include constructivist, social and experiential learning and these are shown in the quotes in figure 3. Though each one is from a differing standpoint they all frame learning, as an active process whereby an individuals knowledge and/or behaviour is potentially changed through encounters with others or things. This work seeks to broaden out definitions of learning, as an acquisition of knowledge/skill that becomes integrated into individuals practices, through exploring

sociological and more-than-social approaches to learning (Taylor and Pacini-Ketchabaw, 2015). In this chapter there is a focus upon those modes of learning that are seen as embodied, due to forest school philosophy perceiving the body as central to learning (Forest School Association, 2014; Knight, 2011a).

Embodiment is implicated in everything we see, say, think, feel and do (Woodyer, 2008). Children's corporeality affects their experience of the world and possible becomings in distinct and significant ways. For example, bodily size and physical differences are important in children's social worlds shaping their identities, place in society and their (im)mobility through spaces (James *et. al.*, 1998; Horton and Kraftl, 2006; Valentine, 2008). Children's embodiment is more unstable and frequently shifts, as their bodies change more dramatically and quickly than those of adults resulting in variations in how they are interacted with (Fingerson, 2009). Therefore, children are particularly defined by their bodies, which can be seen through the labelling of them as baby, toddler, child and teenager (*ibid.*). It is this process of identifying and labelling children's bodies that result in governance and the locating of them as in or out of place (Valentine, 2008). Throughout this section the body will be explored as a site of learning through a number of perspectives, including post-structural, non-representational and more-than-social approaches.

### *Shaping the body at school*

It has long been acknowledged that education plays a major role in structuring of everyday lives of children and in the reproduction of social inequalities (Bourdieu, 1990; Friere, 1972). Theories of social reproduction suggest that the values of dominant socio-economic groups in society be transmitted by pedagogies during a child's schooling (*ibid.*).

However, for Bourdieu (1990) knowledge and values are not merely received and accepted by children, as they are instead constituted by habitus. Habitus can be understood as the values, knowledges and dispositions gained from our cultural history that generally stay with us throughout our lives across contexts (Webb *et. al.*, 2002). Knowledge is understood as being transmitted in the form of cultural capital, which is the knowledge and practices that an individual has that allow them to inhabit in a particular field. Cultural capital is carried across community members and allows/prevents participation in social life. Bourdieu and Passerson (1979) highlight how cultural capital serves to (re)produce socio-economic difference, reinforcing inequalities between different social groups. For example, they argue that children from working class backgrounds tend to have lower levels of attainment at school because their cultural capital differs from dominant middle class values that are taught in schools. Through this lens children from other backgrounds are at an instant disadvantage when they begin school, as they have to learn a new set of cultural values that may contradict their own. Therefore, being a successful learner, according to Bourdieu and Passerson (1979), becomes less about intellectual abilities and more about being able to learn and assimilate cultural values.

For Foucault (1991, 2002a) schooling was part of a panoptic society during the twentieth century, whereby a series of institutions in society transmitted power-knowledge to people through observation and monitoring. Foucault (1991, 2002a) uses the panopticon to conceptualise how power was applied in the form of potential continuous supervision. An individual could be watched at anytime, so that they mould their behaviour to comply with norms, whilst simultaneously applying them to others. If abnormality is discovered, for example if children do not follow the expected stages of child developmental models, then this enables bio-power to act upon individuals so that they modify their behaviour and

bodies to the norm. The body essentially becomes something to be moulded, reformed and corrected by disciplinary practices until it is conceived to be normal. Foucault's work has been applied to numerous educational settings and engagements, including the nursery (MacNaughton, 2005), moral education (Besley, 2009), health programmes (Evans and Colls, 2009; Hemming, 2007), the classroom (Ball, 2013), school dining rooms (Pike, 2008) and the school playground (Thomson, 2005). Yet, there has been very little critical work that examines power relations that exist in outdoor learning settings in primary education.

Schools have been viewed as a moral technology designed to encourage certain values to flourish, especially those related to those that encourage individuals to take more responsibilities for themselves (Rose, 1999). Rose (1999) applies the model of the panopticon to explain why moral codes are adhered to, as a network of gazers - teachers, students and other adults who survey each other potentially reporting any inappropriate behaviour, while rewards and punishments are used to ratify the system. Moral values become and are embodied in schools, through the everyday social practices of the classroom (Jenks, 2005). For example, rewards for conforming to values focus upon the disciplining of the body, such as decorating (with stickers) and parading them (in front of others), whilst undisciplined bodies are isolated (made to sit alone) (*ibid.*). This process of reward and punishment in schools acts upon children's bodies by identifying them as (non)conformist and it structures their experience. Thus, the body and embodied practices play a central role in learning.

It is important to emphasise that Foucault's (2002c) work goes beyond power as coercive, it can be resisted and transformed by individuals, and therefore it can be productive.

Children's geographers have explored how children contest, transgress and resist disciplinary power (Evans and Collis, 2009; Holt, 2004a; Pike, 2008). For example, Holt (2004a) found that those children isolated from their peers at school, as punishment would often contest their exclusion by communicating with their friends non-verbally. These studies do not just focus upon children, but look at how adults who are positioned as administrators of discipline (such as teachers, playground supervisors or school nurses), contest and change disciplinary power to weaken its effects (Evans and Collis, 2009; Pike, 2008). For example, Evans and Collis (2009) examine a government obesity surveillance programme, whereby children were weighed annually and their Body Mass Index (BMI) was recorded in schools. Resistance to bio-political control was not conceived to be in an overall challenge to the programme, but within the negotiations surrounding the practices of measurement that produced 'obese' bodies (*ibid.*). The classificatory power of BMI as a measure of health was often challenged, as parents would withdraw consent (Evans and Collis, 2009). Also, school nurses would often reassure children that they were "all perfect" and that "everyone's different", rather than repeating dominant obesity discourses (*ibid.*). This example shows how power can be productive and that it should be understood relationally between multiple actors, it is not an overbearing force enacted upon individuals and there is the possibility for them to act autonomously.

The work of Foucault has been used to unsettle play in educational settings as natural and beneficial to children (Thomson and Philo, 2004; Ailwood, 2003). Thomson and Philo (2004: 111) state "Might it be that for many children certain activities seen by adults as 'play' are for them really quite distant from being 'play'*ful*? Could it be that children are often just existing, just being, when supposedly 'playing'?" From this perspective play is simply what children do, it is a practice, and it should be seen as an adult construct

invented to help adults make sense of children's lives. Play is understood as a function used to manage and organise relationships between children and adults (Ailwood, 2003; Grieshaber and McArdle, 2010; Thomson and Philo, 2004). Ailwood (2003) explores how in early educational settings play is a dominant pedagogy, due to the mobilisation of romantic/nostalgic and developmental discourses, which regulate play and create regimes of truth. For example, romantic/nostalgic discourses validate types of play that are seen as natural, such as playing outdoors rather than indoors on electronic devices. A specific language has been developed that enables play to be measurable, knowable and practical to implement, and this can be seen through the use of terms such as natural, spontaneous, pretend and exploratory (Ailwood, 2003). This specific language is then deployed through matrices used by early years educators to map a child's progress and to judge whether they are normal according to child development goals (Grieshaber and McArdle, 2010). Therefore, the application of governmentality to play challenges it as beneficial to the child, as instead it becomes understood as a method that regulates children's lives (Ailwood, 2003).

#### *The problem with disciplining the body?*

Deleuze (1992) in his Postscript on the Societies of Control develops Foucault's analysis of disciplinary societies arguing that they reached their pinnacle in the 20th century and that since control societies have emerged. Deleuze (1992) argues that the power of governments declined in the late 20th century marked by disciplinary institutions, including schools, undergoing a crisis and in response to this situation they have been in a state of continuous reform. As institutions breakdown the logics of subjectification that operated in enclosed spaces are then spread so that it is continuous and free flowing and ever more immanently distributed through bodies (*ibid.*). Therefore, an important idea



within Deleuze's (1992) work is that social structures are leaky, as there is always something that deviates and escapes from it (Olsson, 2009). Within a control society individuals become dividuals - samples, data or markets in a continuous network whereby we become bound within "molds, distinct castings" that modulate their lives (Deleuze, 1992:4). Thus, a society of control is characterised by the intensification of normalising apparatus of discipline (Hardt and Negri, 2000). Although, bio-power may have become more prevalent in our society that does not necessarily equate to control over our bodies (Deleuze, 1994). Control only occurs when individuals personal desires appear to align with the aspirations of the organisation that is transmitting them, but ultimately these desires are far from being the individuals and instead emanated from the organisation (Watson, 2010). For example, universities promote volunteering that emphasises student self-responsibility, whilst many students desire to have such experiences to improve employability (Holdsworth and Brewis, 2014). Therefore, control is more pervasive than discipline as it is without boundaries it affects bodies and minds across space; whilst many believe that they acting according to their own free will.

Foucault's (1991) concept of bio-power has been challenged by arguments that suggest that discipline is necessary and that it is not pervasive. Stiegler (2010) argues that discipline itself is not generally problematic, as it is essential if we are able to engage with the world. Foucault (1991) fails to acknowledge the positive power of sublimation, as technologies can be instruments of democratising and learning that enable children to become critical thinkers (Stiegler, 2010). Discipline is needed in order for learning to take place, as a child will at some point need to listen to learn a new skill, to prevent them or others coming to harm and to be taught new knowledge that then can be potentially challenged (*ibid.*). Individuals allow themselves willingly to be shaped by disciplinary

power if it is beneficial to them, as it can provide structure and order to people's daily lives (Stiegler, 2010). People are also capable of manipulating mechanisms of control through appropriation, as they are able to particularise the universal structures of institutions putting them to their own use (Deleuze, 1994). There exists an affective field of experience beyond perceived reality from which emerges a number of becomings (*ibid.*). If the subject is transcendent then they are beyond disciplinary systems and such systems are unable to shape their bodies or actions. In other words, the subject plays a role in the invention of the norms and rules by which they live.

A problem with bio-power is that the body can be seen as a receiver of knowledge/experience that is docile and can be controlled, but feminist theorists have challenged these ideas (Kristeva, 1982; Longhurst, 2001; Shildrick, 1997). Longhurst (2001) argues that in western culture white men have assumed that they can transcend their embodiment by seeing the body as merely a container of the mind. Meanwhile, female (and child) bodies, in sharp contrast to the controlled male body, are seen as being in states of disorder, due to bodily processes, such as menstruation and pregnancy (*ibid.*). Kristeva's (1982) account of abjection, something that disgusts us and often evokes a bodily reaction like nausea, provides a useful way of reconsidering the body away from docility. Being disgusted, by our bodies, is a reaction to the parts of the world that threaten our sense of boundaries, between ourselves and the world or ourselves and others. Shildrick (1997) suggests that bodies are not self-contained disciplined units; instead the body is seen as having highly volatile boundaries- they leak, ooze and intermingle. These conceptualisations of the body, as messy, dynamic and highly complex phenomena, result in the body being understood as something that can not be controlled fully by the self or

others. This understanding of the body makes a fundamental shift in how we think through the body as a concept and its materiality.

Donna Haraway's (1991) *Cyborg manifesto* provides an important reconsideration of how we think of animal and human bodies. Haraway, like Foucault, understands bodies as objects of knowledge-power with institutions attempting to shape them. Haraway (1991: 149) insists that to capture our bodily reality we need to breach the boundaries between more-than-human and human, whereby bodies become *cyborg*, "simultaneously animal and machine" living in a world that is "ambiguously natural and crafted". There is no clear boundary between what is natural and what is created, the body cannot be understood as purely natural or constructed; instead it becomes a complex hybrid. Haraway (1991) goes on to argue that due to the development of *cyborg* the categories of nature and human as we have constructed them are no longer sufficient and we are now post-human. Haraway does acknowledge social structures, but allows the individual to have agency to shape their own body through technological developments allowing new opportunities to challenge body norms. Haraway's account of the body has been criticised for being overtly techno-determined; essentially Haraway's *cyborg* is a body that is almost entirely a human construction produced through technological interventions. Haraway's account fails to adequately explore how animals, plants, water and other more-than-humans materialities relate to bodies and the performances these generate.

### *Spaces of learning*

Learning spaces are often seen as stimulating and generating learning experiences, and that careful attention is required in the design of them in order to generate the right kind of affects that result in good behaviour (Gray and MacBlain, 2015). For example, the

classroom with rows of desks and the white board at the front encourages transmission models of learning, whereby the teacher conducts the lesson and children remain relatively passive, except for answering questions when directed to. The classroom in this view is an isolated and bounded space, it is deemed as an appropriate site of learning. Through its design it is assumed to enable children to become what is deemed to be a good learner - someone who sits, listens and is directed by the teacher. This conceptualisation results in space thought of crudely and in an uncritical way, as it simply becomes a container for children to do learning in. Pile and Thrift (1995) have unpicked this view of space, finding that it is based upon positivism, and is presented in a neutral way with the world turned into a set of geometric arrangements. It is important to emphasise that this conceptualisation of space is far from neutral and that it serves the interests of dominant social groups over others (*ibid.*). In this case it potentially enables and promotes unequal power relations between adults and children, in order to teach children how to see and know the world through adult eyes.

Some educators and parents, due to their concerns that schools are embedded with unequal power relations and they perceive them to be dehumanising spaces, have developed a number of alternative educational approaches, including home schooling, forest schools, Steiner schools, Montessori schools and carefarms (Kraftl, 2013a, 2013c). Alternative education settings, those that are not controlled, administered and/or predominantly funded through the state educational system and in some way supplement or replace a child's engagement with mainstream education. (see Kraftl, 2013a). Kraftl (2013a) through ethnographic research explores the connections and disconnections between mainstream and alternative education, finding that there are more commonalities than differences between them. He argues that it would be more fitting to think of alternative

education as autonomous spaces of learning, implying they are more independent and have less interventions than mainstream school spaces. Within *Chapters 5 and 6* this theme of the (dis)connections between the ethnographic sites taking part in this research will be explored, and whether they should be considered as alternative or not.

Kraft's (2013a) work surrounding alternative education can help us come to new understandings of the role of space in learning. He finds that good quality learning experiences happen in what may appear to be bare physical surroundings, including run-down portacabins, free buses to the supermarket and simple patches of woodland. It is not that space does not matter in education, it does, but we need to go beyond looking purely at organisation and design, which effectively narrows our gaze hiding social and more-than-human processes (*ibid.*). Instead, Kraftl (2013a) suggests that social and spatial processes need to be understood as productive of one another, and he uses spatialities as a way to capture the ways that the social-spatial are entangled and realised through thinking and practices. Spatiality can be used as a way to indicate the ways in assemblages of power-knowledge and subjects are constituted through the production and performance of space as an ordering (Thrift, 2008). For example, messiness, in terms of material and temporal disorder, is negotiated by alternative educators as a resource for creating affective atmospheres from which creative forms of learning are perceived to flow (Kraftl, 2013a). Messiness within these spaces of alternative learning became a signifier of learning showing this pedagogy as child centred, creative and productive (*ibid.*). Yet, at the same time educators have clear sense of boundaries that are enacted, and in some cases are more ordered than mainstream class setting (Kraftl, 2013a). Order, within these settings lets encounters that are deemed to be risky to take place. For example children building, lighting and cooking on fires in forest school settings, as without it there is the

potential for children to be harmed. Therefore, performances of alterity in these settings often rely upon routines, spatial structuring and organisation (Kraftl, 2013a).

### *Citizenship*

In contemporary societies citizenship is related to rights and duties of an individuals membership in a political community, which in the past century often is the nation-state with membership implying some form of integration in terms of common values (Yarwood, 2014). Citizenship involves the creation of a particular vision of a democratic citizen, one who participates within political processes that sustain the nation-state and capitalist system in the wake of continuous economic, cultural and economic transformations (Giroux, 2006). Such a view of citizenship suggests that it some how is used as a tool to anchor individuals to the state, and in effect they become passive subjects. It fails to take into account how we live in a world where ideas that disrupt the relationship between the state and its citizens are highly mobile (Yarwood, 2014). Yarwood (2014) shows the emergence of forms of trans-national activist citizenship, such as Advocacy Networks in outbreak of the Arab spring, that place emphasis upon individuals exercising their rights locally through protest, but also tying into global networks across social media. This work challenges ideas of citizenship as fixed, static and linked to the nation-state, as instead communities can shape their own visions of what it is to be a citizen (*ibid.*).

Despite, academic work suggesting that citizenship can emerge from communities, consecutive governments have promoted the teaching forms of civic and liberal citizenship, as a way of dealing with a variety of contemporary issues from voter apathy to climate change (Stevenson, 2011). Civic citizenship conceptualises the individual as

capable of self-rule, with liberal citizenship is viewed as rights of the individual that are enacted when duties and responsibilities are performed to the nation (Miller, 2000; Weller, 2009). Civic and liberal citizenship are closely related, they rely upon the construction of a separate and bounded individual who is able to act and be responsible for themselves. Both forms of citizenship can be criticised an individualistic focus, particular upon notions surrounding responsibility for the self, as it universalises agency ignoring the difference that exist amongst groups that not all individuals are able to access resources equally (Oldfield, 1990). Weller (2009) has explored in depth how young people are often excluded from liberal conceptualisations from citizenship, as they are often perceived to be citizens in becoming, as being outsiders and therefore citizenship is something that is done to them. Weller (2009) goes on to challenge popular conceptions of young people as passive, by showing that they are politically active and become involved in grassroots political activism, such as opposing the invasion of Iraq, but this type political activity is discouraged. When young people do become involved in grass root political activism that opposes the government they are often seen as not being competent enough to understand issues, and instead schools are forwarded as the ideal spaces of citizenship education (*ibid.*).

Environmental citizenship has become embedded within UK school curriculum over the past twenty years, it has a particular moral purpose with a focus upon developing an ethic towards the environment that is perceived to protect it. For example, according to the key stage one National Curriculum (2015), children learn about "what improves and harms their local, natural and built environment and about some of the ways people look after them" (p.2) and "They have opportunities to show they can take some responsibility for themselves and their environment" (p.1). Here, citizenship is about becoming responsible

as an individual and caring about the environment, but it also about being seen to be actively practicing citizenship. Although, the use of the word 'some' suggests that children are not capable of being fully responsible and that becoming a citizen is a process that children go through en-route to adulthood. In this particular version of citizenship civic and liberal ideals are embedded, which can be seen through an overt focus upon the individual as responsible for and having a duty towards more-than-humans.

It is important to emphasise that there are many forms of environmental citizenship, it is not univocal, and there are situations, whereby a particular notion of it, or one of its features, directly conflict with another (Melo-Escrihuela, 2008). For some environmental citizenship is about extending rights to the environment (Bell, 2005). In essence, this form of environmental citizenship emphasises rights to all people to clean air, water, uncontaminated land and green spaces, which is achieved by collective action (*ibid.*). Other conceptualisations of environmental citizenship are more overtly focused upon the individual, with them understood as having a duty and responsibility to care for and act in ways that consider more-than-humans (Seyfang, 2005). Seyfang (2005) describes environmental citizenship as involving the reduction in an individuals ecological footprint. Seyfang (2005) suggests that this cannot be achieved through decreasing through sustainable consumption, but complete lifestyle change by switching to local models of production/consumption requires. Although, there may be some contradictions between different forms of environmental citizenship they are related by a combination of the claiming of rights and the fulfilling of duties and responsibilities towards more-than-humans (Melo-Escrihuela, 2008).



Dobson (2008) is critical of environmental citizenship as it is formed from liberal and civic forms of citizenship, and as such does not depart from the current socio-political system that is responsible for environmental damage across the planet. Dobson (2008) calls for a movement away from liberal and civic forms of citizenship in a new direction towards ecological citizenship. Contemporary conceptions of citizenship are connected with the territory of the nation-state, which fail to address global environmental issues (*ibid.*). Thus, ecological citizenship moves beyond bounded ideas of space to a global political community, whereby individuals belong to this community not by the territory that they inhabit, but through their shared ideal to reduce ecological footprints (Dobson, 2008). Dobson's (2003) vision ecological citizenship is particularly concerned about individual's actions in the private sphere, in relation to their ecological footprint, as private acts are seen as having public and global implications (*ibid.*). Thus, in this model there is a focus upon an individuals environmental duties, rather than their rights, and environmental pollution and degradation is presented as caused by individual acts of consumption.

Both environmental and ecological citizenship have been criticised for their narrow focus upon the environment. Agyeman and Evans (2006) suggest that by centring upon the environment the connections and entanglements between social, political, economic and cultural processes involved in producing environmental degradation and pollution are missed and ignored. Thus, the structures that shape people lives and social inequalities that prevent individuals from participating equally are forgotten, and as such some social groups are excluded from these visions (*ibid.*). For example, Horton's (2006) ethnographic study of environmental activists in Lancaster found that almost without exception they belonged to educated factions of what is often called 'the new middle class'.

He also described how environmental activists reduced their ecological foot prints by practising vegetarianism, growing their own food, reducing their working hours, cycling and walking (*ibid.*). However, there are social groups who would be unable to radically change their practices, due to their economic situation, lack of access to resources and social status, in order participate in this vision of ecological citizenship. Thus, ecological citizenship offers a normative account that is concerned with the ethical and moral realignment of attitudes to ones that generally fit within a professional middle class habitus, and therefore it has the potential to create, maintain and reinforce social inequalities.

### *Practice and Performance*

In order to move beyond issues of representation to provide a more lively account of "more-than-human, more-than-textual, multi-sensual worlds" bodily performances and practices have been centred in social research (Lorimer 2005: 83). This work explores "mundane everyday practices that shape the conduct of human beings towards others and themselves in particular sites" (Thrift, 1997: 142). Practices, for Bourdieu (1977, 1990), are used to suggest how shared habits are made by and through their routine production. The production of practices occurs over time during immersion in a field (a shared world) where a person gradually learns to belong, through the internalisation of social structures (*see p.58*) (*ibid.*). Shove and Pantzar (2005) offer a differing approach to practice, which is not dependant upon social structuring alone and therefore their theorisation avoids the determinism seen in Bourdieu's (1977, 1990) work. Shove and Pantzar (2005) argue that individuals are carriers of social practices, which are created through negotiation, co-production and performance with a range of phenomena. They present practice, as assemblages of skills (forms of competence, procedures), matter (objects) and

images/symbolic meaning (representations, discourses) that are integrated into participants as they undertake regular and repeated performances (*ibid.*). I will draw upon this definition of practices, in the analysis chapters, but I will widen out matter to include animals, water, smoke, mud and other elements involved in the co-production of them.

This research uses performativity as a way of understanding embodied performances. Performativity understands identities as socially constructed emerging into the world through performances that involve the doing of tasks, practices, gestures and actions, which can be at times conscious/unconscious (Szerszynski *et. al.*, 2004). Performativity has been a useful way of understanding how societal structures shape children's daily lives, in particular the ways that categories such as age, ethnicity, class and (dis)ability become entangled forming experiences (Holt, 2004a). For example, Holt (2004a) explores how disabled/non-disabled identities are constructed at a primary school through everyday performances in different classroom micro-spaces. She finds that (dis)ability is a set of discursive and performative practices, whereby discourses of disability, often related to abnormality, are rehearsed and reproduced by those children identified as having SEN, their peers and teachers (*ibid.*). Thus, at times performances can be discursive, habitual, repetitive and choreographed informed by representations that are circulated across society (Butler, 1997), although they can be improvised and unpredictable (Thrift, 2003).

By understanding the embodied nature of our engagements with the world we come to a partial understanding of how we come to learn and know the world, as we also need to consider how more-than-humans co-construct performances. Work upon affect, our unconscious in the form of emotions, desires and intuitions, has shown how more-than-humans are involved in the emergence of performances and therefore moving

performativity beyond discursivity or talk (Dewsbury, 2003). Knowledge is shaped by pre-cognitive processes or as Thrift (2007:7) puts it a "rolling mass of nerve volleys prepare the body for action in such a way that intentions or decisions are made before the conscious self is even aware of them". It is the things that go on in the background in our everyday lives that we are not usually conscious of that form our knowledges of the world, which emerge in performances revealing the unsaid shining a light upon potentially hidden power relations (Thrift, 2003). Anderson and Harrison (2006) understand affect as pre-discursive, and do not come into existence through discourses alone, but by multiple phenomena, that are assembled through involuntary interactions. Kraftl (2013b) counters the notion that affects are entirely pre-discursive by arguing that emotions and affects are embedded with policy and practices, which are created and enacted on behalf of young people. For example, forest school practitioners through carefully choreographed performances try to encourage specific emotions when children encounter more-than-humans (Kraftl, 2013a). The generation of emotions in such situations has a specific purpose, to produce particular types of habit that are seen to have the potential to invoke emotional benefits (such as well being), whilst changing undesirable behaviours (*ibid.*).

The conceptualisation of affect as pre-discursive is highly problematic, as it ignores how the past can burst and rupture into the present treating performance as beyond culture, politics and society (Nash, 2000). Some scholars have explored bodily performances in more discursive terms, Butler (1993) argues that gender exists around particular bodily acts that are circumscribed as normal, and these are endorsed through rewards and punishments. Through this particular lens performance becomes something that can potentially be controlled aligning bodies to norms. Valentine (2000) explores how young people, when attending secondary school perform gendered identities. She found that

boys tended to perform hegemonic masculinity through acts that show the strength of their bodies, whilst girls take part in performances that aim make themselves attractive in terms of desired femininity (*ibid.*). However, this study reduces performance of gendered identities to passive acts of normalisation, and fails to consider how young people create their own performances. Gagen (2000) in a study of 20th century play movement in American cities examines how gender norms are reinforced in spatial practices (through gendered playgrounds) and how children then rework them on their own terms. For example, some children challenged dominant gender constructions of that time by using playground equipment in unintended ways (*ibid.*). Importantly, Gagen's (2000) study shows that attempts to enact discourses over children's bodies are not always successful, and that they can be transformed and resisted by individuals through performances. Therefore, revealing the complex nature of performance, that will be forwarded in this research, whereby performances have the potential to be habitual, repetitive and choreographed, as well as being improvised and unpredictable.

#### *Experiential learning in 'nature'*

The body is understood in this study as the mediator of experience and knowledge through sensory and emotional interactions with the world around us. This section will consider how learning occurs through bodily encounters with the world, also known as experiential learning. Experiential learning involves learning in a particular context through hands on experience, and it can be associated with problem solving, critical reflection and working co-operatively with others (Friere, 1972; Klob, 1984). Experiential learning approaches are often seen as an alternative to forms of learning that involve the transmission and reproduction of knowledge from teacher to learner, as instead learning occurs when an individual becomes immersed in the world through encounters (Ingold, 2000). However,

it is important to be aware that experiential learning approaches have been heavily influenced by constructivist psychologists, particularly Piaget and Vygotsky, who believed that individuals construct their own understandings through interactions with the world. Child development approaches led to narrow conceptualisations of children as passive objects that can be filled with meaning (Atkins, 2001) (*see child development paradigm page 41*). This section will begin by theorising experiential learning, drawing upon Deleuze and Guattari's (2000) concept of rhizome and Ingold's (2000) work on embodied learning, before moving on to experiential learning pedagogues, including Klob, Friere, Dewey and Montessori that have influenced outdoor learning.

Deleuze and Guattari (2000) apply the concept of rhizome to framing experiential learning, as a way of thinking and doing that is non-hierarchical and non-linear. In other words when learning is rhizomic it is outside of social norms and structures, and therefore is without roots (*ibid.*). Learning without roots means that learners are open to inter-relationships that may not be conventionally linked and they go beyond what is already apparently known. Through this lens experiential learning is seen as heterogeneous and involving the assemblage of a range of entities, including people, animals, objects, plants, and technologies (Deleuze and Guattari, 2000). Therefore, learning cannot be fixed and it happens in a multiplicity of ways. Relations with diverse entities are able to fold/unfold, due to free movement across space, ideas and concepts creating a range of knowledges that are transforming continuously (Deleuze and Guattari, 2000). One implication of using Deleuze and Guattari's (2000) work to approach experiential learning is that human and more-than-humans become less clearly differentiated and it becomes more difficult to pull them apart challenging the Cartesian divide between more-than-humans and humans. Therefore, experiential learning can be complex and open formed through a dynamic set

of different and differential relations, whereby notions of causality and linearity are absent.

Ingold's (2000) work is also useful when conceptualising experiential learning, due to the understanding it brings to embodied learning. Ingold (2000) suggests that experiential learning involves the combining of subject and object so that the learner becomes fully immersed in the present, and learning becomes an unconscious process. The body is the locus of learning, as we come to know the world through bodily experience (Ingold, 2011). Ingold (2000) conceptualises the body not as a composite made of separate parts - body, mind, culture, but he instead centres the body as a focus of creative growth within continuously unfolding relations. This understanding of the body makes a fundamental shift in how we think through the concept and materiality of the body, but also how we learn new skills and knowledges. According to Ingold (2000) knowledge about nature cannot be understood as transmitted, instead it is embedded as an individual encounters their surroundings. Ingold (2000) describes in detail how new skills are most successfully developed within the specific context of where that skill would be used. The learning of a skill takes place through the bodies senses through touch, taste, smell and sight (*ibid.*). Over time the fine tuning perceptual skills happens through practice, until the individuals body becomes fully related to their surrounding environment (Ingold, 2000).

Generally, experiential learning approaches suggest that individuals construct new knowledge through a cycle of experimentation and then reflection (Friere, 1972; Klob, 1984). Klob (1984) devises a cycle for experiential learning involving doing something to gain concrete experience, reflecting upon that experience, interpreting what has happened through established theories and then putting what has been learnt into practice.

However, it is problematic to consider experiential learning in terms of a simplistic cycle and there are particular weaknesses with how experience is conceived in these models. For instance, Kolb (1984: 68) states that "...concrete experience focuses on being involved in experiences and dealing with immediate human situations in a personal way". In terms of outdoor learning, this is often interpreted as the provision of opportunities to do certain activities that become experiences, such as pond dipping, gardening and den building, which are then reflected upon and it is hoped that what is learnt is put into practice (*see* Knight, 2011). Experience through this lens becomes something that is separate and additional to children's everyday lives that are provided by adults creating opportunities the doing of specific activities.

In Dewey's (1963, 1966) work he considers that all learning comes from experiences through our everyday inter-relations with the world. Dewey (1963) focuses more upon understanding the depth of our experiences, rather than the creation of new and multiple experiences. For Dewey (1963) experience is a dynamic process that involves in what he calls a transaction taking place between individual and environment, whereby they affect each other in a constant reciprocal relationship. Thus, activity in itself does not constitute experience, as it is the connection between individual and the world (Dewey, 1966). Experience involves an individual engaging with their environment through experimentation, and during this process we are affected and in turn knowledges are formed shaping our actions (*ibid.*). Within the outdoor learning movement these ideas are often drawn upon, as it is perceived that if children have experiences with more-than-humans they will be affected by them and go on to care for them (*see* Gill, 2007; Louv, 2005).



Montessori's work is also drawn upon by outdoor educators and is particularly visible in forest schools (Williams-Sieghfredsen, 2011). Montessori (1965) suggests that learning occurs through self directed experiences, like Dewey she believes are related to a child's engagement with their environment. She considers that it is essential for adults to construct environments that stimulate children's learning through encouraging them to play in certain ways (*ibid.*). In the Montessori system there are two distinct stages of learning, firstly to introduce the child to a new material and secondly they have to work with the materials for days, even weeks, until they have mastered the skill of using them. Once a child's interest and their basic competence is established the teacher leaves them, and often older children are encouraged to support those who are younger (Montessori, 1965). Movement, both bodily and that of materials, is thought to be central to learning and development, as it is believed that interest in the world and mastery are brought about by prolonged and repeated manipulation of an object (*ibid.*).

Experiential learning is framed upon an individualistic model with the learner generating knowledge from their reflections and then testing their own ideas about the world. It is based upon three universalising assumptions that learning is most effective when individuals have direct experience, knowledge has to be discovered by them if it is going to have significant meaning to them and finally learners are more committed when they set their own learning. Knowledge becomes understood as not transmitted from person to person, but as existing within an individual it can be found through reflection and experience. By learning through direct experience alone it is unlikely that the individual is able see beyond their situation to the broader socio-political structures that shape their lives (Thornton-Moore, 2010). Therefore, the learner needs to be pointed towards social theory, to help them make connections between it and their own lives and to encourage

them to develop critical thinking skills (*ibid.*). Also, learning based upon personal reflection does not challenge misconceptions and ideologies that individuals may hold and potentially reinforcing prejudices (Tisdell, 1999). Therefore, experiential learning rather than creating a more democratic and equal society can strengthen existing inequalities in society and further marginalise vulnerable groups.

#### *More-than-social approach to learning*

Through a more-than-social approach learning is no longer just centred upon an individual child, but is seen relationally. More-than-social pedagogies explore encounters between phenomena considering how we learn with more-than-humans and potentially rethink our place in the world (Taylor and Pacini-Ketchabaw, 2015). Importantly, unlike in many current environmental education programmes, which romanticise relations between phenomena and children, it is recognised that learning with animals is not always equal, harmonious and connective (Malone, 2016). Taylor and Pacini-Ketchabaw (2015) examine how a more-than-social pedagogy can be enacted through children encountering worms, a common activity in a number of pre-school settings, but rather than children learning about worms they learn to respond to them. Through one encounter they highlight how children questioned life and death, as a worm is cut in two by a spade and then goes on to regenerate, allowing children to re-imagine life (*ibid.*). This example shows how encounters are unpredictable, unexpected and at times unwelcome, but they can have powerful affects upon us challenging our view of the world if we are open to them.

Adults often seek to close off children's reimagining's of the more-than-human as having life and multiple possible becomings. More-than-human-child relations tend to be

translated teleologically, where they serve a distinct purpose to socialise and develop children in particular ways (Rautio, 2013b). Thus, learning is often framed as improving, in terms of doing a skill or knowing, where engagement with things is seen as an end in itself and such encounters are reduced to an instrumental activity with a predetermined significance known by adults (*ibid.*). Rautio (2013a) challenges that more-than-human/child relations should be thought of in a teleological way through an exploration of the autotelic practice of carrying stones. Autotelic practices are activities that people repeatedly engage in that have no external reward or motivation, such as money or recognition; instead they are internally motivated as the activity is the goal and the reward in itself (Rautio, 2013a). Rautio (2013a) draws upon the work of Csikszentmihalyi (1975, 1990) to explore how carrying of stones can be understood as how experiences in which people forget themselves. Learning is no longer a process that is pre-defined, but is motivated and initiated by an individual's material surroundings that spark thoughts and actions (*ibid.*).

A pedagogy that is framed upon autotelic practice shifts how we frame education from improvement, production and creating useful citizens of the future to a focus upon how do children perceive the world and adapt to circumstances in their everyday lives (Popkewitz, 2000). Educators and policy makers would need to let go of the following principles: long term accountability, evaluation and the controlling of outcomes that have become embedded in education in order to allow children to be guided by fleeting and aimless autotelic practices to emerge through multi-sensory experiences (*ibid.*). Interaction between children and the world would need to be considered as having intrinsic value, with space being provided for the full potential for this way of learning to be realised. Although learning is seen relationally the individual is responsible for how they entry

encounters in terms of their attitudes and actions towards others. As Rautio (2013a: 8) exemplifies through describing the actions of a research participant sticking her head into a bag of decaying compost and declaring 'As if a landscape out of this world'. This is a different way of thinking about compost, and potentially would have dismissed as nonsense as it breaks from common sense and what is considered to be normal behaviour (*ibid.*). However, this moment with the compost opens up a new way of seeing, being in and knowing the world around us. Learners need to have openness in order to relate to our material surroundings in new ways, if they are not willing or unable to be open to see difference in the world and be affected then this way of learning will fail.

### *Conclusion*

In conclusion, this chapter finds that that childhood is not a universal stage, but changes across both time and place, with numerous childhoods existing that are dependant upon their unique context. Through relational geographies of age, childhood is produced through the interactions between adults, children, things, animals, stories and discourses, and these relations have distinct affects upon each child forming a unique childhood for each individual. However, childhood does not just end at a fixed point in time it is a process that is related to and shapes us throughout our lives. In this thesis children are understood as having agency, they participate in social life, and their voices and experiences can be learnt. Children are positioned through this work as autonomous self-determined subjects who can act independently of adults and who play an active role in shaping their own childhood and experiences (*shown through experiential learning p.177*). Although, it is recognised that not all children have similar capabilities and may be unable to act autonomously, and that there may be moments when a child's agency is limited (*see discussion on docile bodies p.155*).

This chapter focused upon a particular construction of the childhood, the natural childhood, which emerged within the outdoor learning programmes and is explored at the beginning of chapter 5 (p. 119). The natural childhood draws upon Rousseauian ideals of childhood and nature as vulnerable, innocent and wild thus enabling adults to control them and act in their best interests. Throughout chapters 5 and 6 I will go on to examine how the natural childhood and Cartesian constructions of nature allow adults to intervene in their lives and at times limited what phenomena could become. The natural childhood also influences learning about the more-than-human, as it encourages it to be viewed as fixed, vulnerable and in need of human care, which lends it to being understood through the processes of scientific investigation. In other words, learning about more-than-humans is narrowed to identification, categorisation and experimentation upon, which in turn generated unequal power relations and acts of violence upon animal bodies (*see p. 136 for a discussion on experimenting on bodies*). It is important to emphasise that animals are not merely docile, children's geographers using more-than-social approaches have shown that phenomena do exceed narrow social constructions and ways of knowing. This work goes on to show how children's lives are entangled with more-than-humans and co-produced, which can be seen through affects upon their relationships, experiences and understandings of/in the world (*see chapter 7 p.186*).

To draw an overall conclusion from chapters 2 and 3, it is important to move away from conceptualisations that place more-than-humans and humans in separation, whereby they are in conflict with each other. There is a parallel between the works of social scientists that study nature and childhood, as they have revealed nature/childhood as socially constructed and in essence they are inherently political concepts. When conceptualising nature and childhood it is important to recognise the powerful impacts that various

constructions of it have upon phenomena. Adults seek to mould children's bodies through child development models and romantic constructions of childhood that render them as lifeless and empty vessels to be filled with adult meaning. The ways that nature and childhood are constructed play a role in deciding the identities and lives that are encouraged allowing them to thrive and those that are restricted or even destroyed. Adults attempt to shape animal and children's bodies, but the power mobilised through this process is not always coercive, as it can be challenged and potentially appropriated. However, it is important not to conceptualise power as hegemonic, as often phenomena act in unpredictable ways challenging particular versions of nature and childhood.

People often seek to limit the affects and re-imaginings of the more-than-human as having life and possible child-nonhuman becomings. Rather than being open to new possibilities adults usually translate more-than-human relations teleologically, where they serve a distinct purpose to socialise and develop children in particular ways (Rautio, 2013b). Thus, an engagement with things becomes an end in itself and such encounters are reduced to an instrumental activity with a predetermined significance known by adults. Drawing upon co-productive approaches more-than-humans and children have been shown to have potential capabilities to shape the world. In this study nature and childhood will be understood in a relational way, whereby numerous phenomena are drawn together at moments of becoming forming knowledges about the world. Encounters with more-than-humans bring about the co-production of knowledge with us potentially reconsidering our relations and place in the world.

## **Chapter 4: Methodology**

### **Doing messy research.**

The doing of research is usually not a smooth process, but it often becomes reduced down in methodologies to a series of steps that were followed in the gathering of data (Bryman, 2012). Rautio (2013a: 10) argues that often in educational research "complexity and open-endedness of phenomena are sacrificed for seeming certainty and closure". In order to attempt to capture more of the intricacies and complications of doing research with children and more-than-humans this study has been conducted through the lens of messiness. The acknowledgement of the research process as inherently messy concedes that children, animals and other lives do not fit into neat categories that are seen as truths (Rautio, 2013a). The research was messy in various ways. The methods used in the process of this research unfolded and adapted in the four differing sites of research, whereby I followed children and joined in with their experiences of these spaces. Thus, the research developed over time in spontaneous and unpredictable ways, at times resulting in temporal disorder in the conceived linearity of the research process. The research was messy materially, as I would often get muddy, wet and smelly with my participants as they undertook activities. This chapter begins by looking at the ethnographic sites that took part in the research, I move on to exploring some of the implications of researching with children, present my theoretical framework and the methods used, and finally I outline the analysis undertaken.

#### *Recruitment of ethnographic sites*

The initial research plan that I developed in the first year of my doctorate completely changed when it came to me doing fieldwork. The research initially had been designed

with a national conservation charity and I was going to do an ethnographic study of their outdoor learning programme at a nature reserve in the Midlands. The study was going to be comparative between the conservation charity and a forest school located nearby to the nature reserve. When I began my research the outdoor learning programme at the reserve was undergoing a national reorganisation, and only one school (that decided not to take part) was booked to visit in a six month period. It was clear that this reorganisation was 'top-down' and the staff at the reserve were not involved, so they were unable to give me any reassurances about when the schools education programme would continue or even if it would. I had to recruit new case partners and my research rapidly changed. The beginning of the school year was nearing as August drew to a close and I began actively trying to recruit new case partners. The time of year was not ideal, as the beginning of a new school year is a busy time, but I was fortunate enough to have a network of people that I knew through my previous career as a secondary school teacher and through my studies. My connections were either directly involved in the running of or put me in contact with the person who ran the outdoor learning programme. Although, my initial contacts were keen for to be a part of the research it took until November for me to begin my research in the schools as I had to negotiate my presence with other teachers. They were concerned with issues surrounding safeguarding, how my presence would affect children, the staff and the school.

### *Participants*

In total 86 children aged three to eleven years took part in the research. Table 1 (*see next page*) shows that more girls participated in this research than boys, this was due to the lower number of boys taking part in forest school at Meadows School. Table 1 also shows that the numbers participating varied across the four schools.



School	Age of children	Number of participants	Gender
Garden school	3-4	10	F- 5 M- 5
Meadows school	5-11	31	F- 22 M- 9
Wetlands school	6-10	25	F- 11 M- 14
Woodlands school	5-8	20	F- 9 M- 11

Table 1: Participant information

At Garden school a third of children able to take part it, despite it appearing to have the lowest number of total participants, this is because only the nursery took part in the research, with a limited capacity of thirty-two children. Response rates varied considerably between schools and different classes, and were higher when parents were approached as they collected their children from school. Children were asked by myself, the forest school teacher or their class teacher whether they wished to take part. Those children that did wish to take part were given an information letter and consent form to give to their parents. At Woodlands school the response rate was the lowest, and in an attempt to get more participants I wrote a short article in the school newsletter. Parents gave written consent for their children to be observed and then interviewed. Children also gave their consent either written and/or orally, and some decided that they did not want to take part in interviews, although they did not mind being observed.

School	Eligible for free school meals (%)	English as an Additional Language (%)
Garden School	23.4	28.4
Meadows School	22.0	14.0
Wetlands School	22.5	2.9
Woodlands School	27.1	21.3
English primary schools (state)	18.0	18.7

Table 2: Department of Education (2013-14) statistics

All of the schools that took part in this study shared some common characteristics; they were all located in urban areas and they more children from poorer backgrounds than the national average. For example, table 2 shows that in all schools involved in the study had higher than average percentages of children who were eligible for free school meals and this is often used as a measure of disadvantage (Gorard, 2012). There is a focus upon urban areas associated with relatively high levels of deprivation, due to links made in much of the outdoor literature that urban children are those that are more likely to be more disconnected from the natural world (Gill, 2007; Louv, 2005; National Trust, 2012). Children from these areas have been particularly targeted by policies that aim to reconnect them to nature (DEFRA, 2011; Karsten, 2005). Although, these schools were broadly located in what could be considered relatively disadvantaged communities, it is important to highlight that the populations in terms of their ethnic diversity and issues that they faced varied from school to school. The variation across the schools, in terms of their ethnic diversity, gave me an opportunity to explore how children of different ethnicities experienced outdoor learning.

### *List of participant codes*

Throughout the remaining chapters of this thesis I refer to the participants of this research using names that are not their own. I also have included a coding system to provide some basic information about them (*see codes in 3 table, next page*). When written in the text the participant's name is followed by their [*age/role, school, gender and ethnicity*].

Role	School	Gender	Ethnicity
<i>FST</i> - Forest School Teacher	<i>GS</i> – Garden school	<i>F</i> – Female	<i>As.</i> – Asian
<i>FSA</i> – Forest School Assistant	<i>MS</i> – Meadows School	<i>M</i> – Male	<i>Bk.</i> – Black
<i>OE</i> – Outdoor Educator	<i>NR</i> – Nature reserve		<i>Me.</i> – Multi-ethnic
<i>TA</i> - Teaching Assistant	<i>WetS</i> – Wetlands School		<i>ME</i> – Middle Eastern
	<i>WS</i> – Woodlands School		<i>Wh.</i> – White

Table 3: Participant codes

### *Forest schools*

Forest schools in the UK have emerged since the 1990's and they have been strongly influenced by Scandinavian provision of early years and pre-school childcare (Forest School Association, 2014). Kraftl (2013a) has highlighted three key influences upon their development: the growth of environmental education, growing concerns about children spending less time outdoors and the rise in popularity of experiential learning. There are no current official figures for how many forest schools there are in Britain, but by 2006

there were approximately 100 forest schools (O'Brien and Murray, 2006) and in 2015 the forest school association had trained 12,000 people as forest school practitioners (The Guardian, Tuesday 21 April 2015). The reason for the lack of official figures is that forest schools can take many different forms. Some are connected to schools others are independent; they can be fully integrated into the curriculum, be extra-curricular, take place in specially created areas (such as school ponds and gardens) or already established sites (such as local woodland) (Williams-Sieghedsen, 2012). The two forest schools that took part in this study operated differently, with Meadows school running it as an extra-curricular activity and in Woodlands school it was fully integrated into the curriculum.

The Scandinavian philosophy of *friluftsliv* or outdoor living has played a key influence in developing forest school philosophy that aims to connect children to more-than-humans through repeated encounters with them (Forest School Association, 2014). Forest school educators position forest school as a site where children learn to negotiate risk effectively by doing tasks that are constructed as potentially harmful, such as fire lighting and climbing trees (Knight, 2014). This form of learning is defined by forest school educators as child-initiated with children seen to make their own decisions with adult acting as facilitators (Knight, 2011b). For tasks that are deemed to be dangerous (such as fire lighting) adults teach children how to do it safely, gradually withdrawing support until they become independent (*ibid.*). Movement, both bodily and that of materials, is thought to be central to learning and development, as it is believed that interest in the world and mastery are brought about by prolonged and repeated manipulation of an object. Forest schools educators are seen as responsible for creating a stimulating space that encourages movement through providing opportunities for children to engage with tactile materials, such as mud, sticks and leaves (Knight, 2011b).

### *Meadows forest school*



Figure 4: Forest school at Meadows School

Meadows forest school is located in Greater Birmingham in a densely urbanised housing estate with most of the housing semi-detached and just a quarter of housing being socially rented (ONS, 2013). The school is situated in an area of high ethnic diversity with 34.2% of residents from an ethnic minority group (ONS, 2013), and the school reflects this diversity with a significant proportion of children from second/third generation BME families. The area has a high level of multiple deprivation according to the Index of Deprivation (Department of Communities and Local Government [DCLG], 2015). The Index of Deprivation measures multiple deprivation using several indicators including income, employment, education, health, crime, housing and environment, and will be used as a way to make comparisons across the research sites (*ibid.*).

Anna was the forest school teacher at Meadows school and I meet her whilst undertaking my master's fieldwork at the nature reserve. She was very keen to take part and I begun

visiting the Meadows forest school in September 2014 on a weekly basis. The forest school had been set up two years previously by Anna, with the support from the schools head teacher, after completing a level three forest schools qualification. Initially, Anna ran the forest school in the curriculum, whilst being a full time key stage one teacher in the school, but as she commented "it worked, but personally for me we found the time constraints with teaching as well, as quite hard work". The forest school became an extra curricular activity running on Thursdays from when school finished at 3:15 to 4:30.

The forest school would last a half term, five to six weeks, although it would not run if there was a school event, such as parents evening. It was located in a wooded area in the school grounds, previously a garden, on the edge of the playing field, as you can see from figure 4 the site is relatively small and constrained. Each child at Meadows school was invited to take part in the forest school with their peers from the same year group and there was a cost of £6 for the whole course. The numbers of children that attended the forest school varied from year group to year group, with up to twenty children attending from year two (this was Anna's class), whilst eight to twelve children attended for years one, three, four, five and six. More girls attended forest school than boys (*see table 1 p.86*), with the exception of year two. I did ask children and adults involved in forest school about this and they told me in informal conversations that parents had concerns about the messiness of forest school. Adults perceived girls as cleaner, whereas boys were believed to be messier creating more work for parents (*see discussions on mud in chapter six*). To begin with I just observed children as they took part in the forest school. Anna was initially reluctant for me to interview children, I had planned to do a series of focus groups, but she was worried that this may be quite disruptive to the forest school as children only had five to six sessions. So we decided that my research methods, in terms

of collecting interview data, needed to be altered. It was at this point that it was decided to do walking interviews with children in small groups, in order to minimise disruption to the forest school.

The forest school session would begin in Anna's classroom with children changing from their school uniforms into clothing that they had brought with them. Occasionally, children would forget clothing or adults would deem what they had as not being warm enough or waterproof, if this happened they were given some water proofs that had been left by other children. Once children were dressed they would be registered and then run across the playing field to the gated entrance to the wood where they would wait. Children would be called into the wood when Anna had decided it was safe, and they would sit in fire square or sometimes they would be sent back to the field to play games. After games, children would return to the fire square, where they would have a cup of hot chocolate and a biscuit. Anna would tell children about the things that she deemed to be risks and run through a set of rules, before suggesting some activities that children could do. Children would build dens, sometimes just sit in the fire square, do mud painting, use the mud kitchen, play chasing games, make things and homes for bugs. They would do these things until 4:15 when the session would end with tidying up, before lining up by the fire square and returning back to school.

### *Woodlands school*

Woodlands school is located in a large new town in the West Midlands within a large urbanised housing estate that is made up of primarily semi-detached houses with almost 60% of homes being socially rented (ONS, 2013). The school is near to both the town centre and a large park, which is visited by the school on a regular basis. The school has a

diverse community with a significant number of children coming from ethnic minority backgrounds and 21.3% of the children not identifying English as their first language (*see table 2 p.87*). The area has a high level of multiple deprivation according to the Index of Deprivation (DCLG, 2015). In recent years there has been considerable economic investment in the area as it undergoes regeneration.

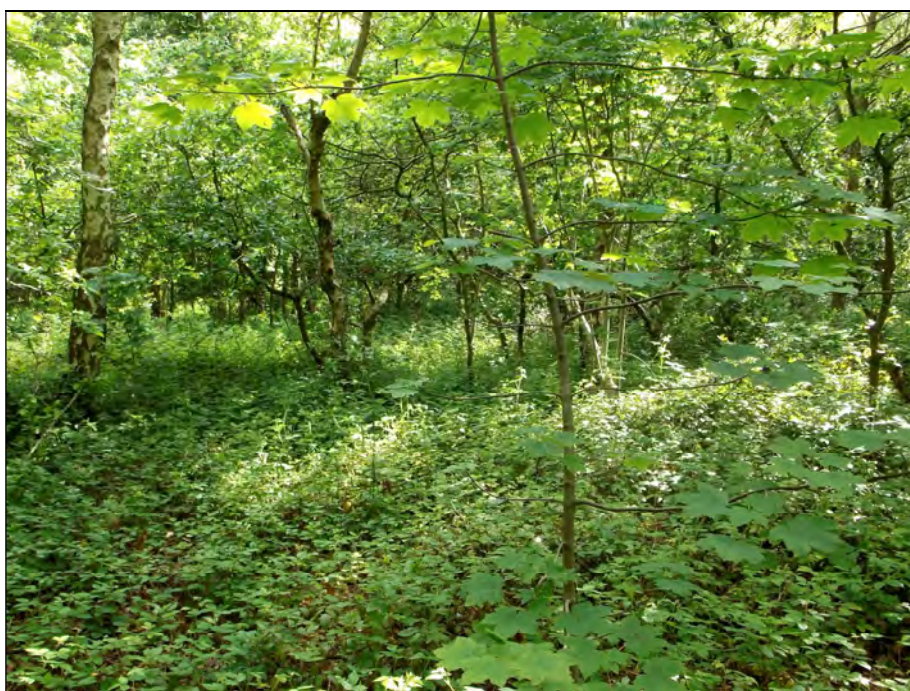


Figure 5: Forest school at Woodlands School

The forest school at Woodlands school was part of the schools curriculum for the past five years and compulsory for all children. A dedicated forest schools teacher Carolyn and assistant Lorraine ran Woodlands forest school. I had met Lorraine whilst she was undertaking a masters and this is how Woodlands school was recruited. The forest school is located in the school grounds upon a mound covered with a mature woodland (*see figure 5*). The wood was fenced off and gated so children could only access it with adults, and when forest school was running a significant area of the wood was deemed out of bounds to children. The forest school would run as a morning session from 10:00 till



12:00 and in the afternoon from 1:00 till 3:00 on Mondays, Tuesdays and Wednesday mornings for a nurture group. Each class, twenty five to thirty two children, would do a half term (five or six weeks) out of the classroom activities, which included forest school sessions, visits to local museums, library and the park. In total, most classes would do three sessions of forest school and I observed nineteen sessions of forest school, which included reception, years one and three. Although, it was difficult to follow the same class consistently, due to cancellations related to poor weather conditions or other school events, such as sports day. Therefore, I only conducted walking interviews with six children from year three as I saw them for three sessions.

The forest school sessions would begin with children changing into waterproofs (provided by the school) and wellies. They would then walk up the pit mound, sit around the fire square where they were given instructions, do activities and the session would end with reflection time at the fire square. The structure of the forest school was designed around the three key stages that comprise the primary school curriculum in England: early years [nursery and reception classes with children aged 3 to 5 years], key stage 1 [years 1 and 2 with children aged 5 to 7 years] and key stage 2 [years 3 to 6 with children aged 7 to 11 years]. Each key stage has a prescribed set of knowledge and skills that each child is expected to have learnt by the end of that stage, and therefore what was learnt within Woodlands school would change depending upon age. Early years children would be given the choice of three or four activities that they would do with an adult, but if they wanted to they were allowed to initiate their own play if they wished. Children in key stage one and two would be told what they would be doing (such as fire lighting, Stone Age house building and plant identification) before being placed into a small group,

usually accompanied by an adult. The session would finish in the fire square with Carolyn leading a reflection on what children had done and learnt, before heading back to school.

### *Garden school*

Garden school is located in Greater Nottingham, near to a high street and in an area that has a diversity of housing types with flats making up the highest proportion of the housing stock. The make up of tenure is different from the two previous research sites, as a third of the housing in this area is rented by private landlords and less than a tenth is social housing. The area has a low level of multiple deprivation according to the Index of Deprivation (DCLG, 2015). The school community is very diverse, as children are from a number of countries with a high percentage of children identified as EAL (English as an Additional Language) (*see table 2 p.87*), due to its proximity to a university. Garden school has a highly mobile community with a significant number of children attending the school for a few years before returning to their country of birth.



Figure 6: Early Years garden at Garden's school.

I spent almost a school year, attending most weeks for one day in the nursery, which is located in the foundation stage unit. Children attending the nursery were aged three or four, and they attended for eighteen hours a week, whereby they would do five morning or afternoon sessions, and then an additional session. In the foundation unit the school day was organised around an early years education concept called free flow, involving extended periods of time where children are able to choose to be inside or outside. During free flow children could choose between the activities set up and the play equipment provided. At garden school the free flow sessions would last for approximately forty-five minutes and then children would be called in inside for a more structured learning activity. For children in the nursery, this would last for twenty minutes and usually involve a story, counting, writing letters or phonics. During free flow time children were given the opportunity to work in the garden, which had been an over grown space next to the foundation playground. From October through till March children were involved in cutting willow with secateurs, putting it into piles, removing raised beds, creating new flowerbeds and replanting. The gardening took place in small groups of up to four under the supervision of Jane. This was not a compulsory activity, and children were asked if they would like to work in the garden with some refusing to take part. Once the garden had been finished it was open to children as an extension of the foundation units outdoor spaces (see figure 6), including a mud kitchen, musical instruments, flower beds, a bug hotel, a picnic bench and willow dome. This area became incorporated into free flow, with some children choosing to run around it, use the mud kitchen, catch ladybirds and make homes for them.

Children participating were observed throughout the year and during the summer months I conducted walking interviews with those children that consented. Initially, I approached

children in the same way as I had at the other schools, but they would often run away. So I adapted, children were told that if they wanted to talk to me about the garden then they could come to me when they wanted to. Five children came to me, sometimes by themselves or with others and gave interviews that were often fleeting, no more than five minutes, but some would return back to me and tell me more during the same or different sessions. This approach felt more comfortable ethically, as children choose themselves when they wanted to take part, there was no adult pressurising them to take part and if they changed their mind they could move away from the interview.

### *Wetlands school*

Wetlands school is located on the rural-urban fringe of a former mining town in Nottinghamshire. The school is in a housing estate that mainly comprises of inter-war semi-detached houses that were built by the local authority with almost two-thirds still rented by the council. The surrounding community, like Meadows and Woodlands schools, faces high levels of deprivation according to the Index of Deprivation (DCLG, 2015). The population of the town is predominately white with only 3% of the population from BME groups, which is reflected at the school (ONS, 2013).

Wetlands school was recruited to the study as it participated in the outdoor learning programme at a nature reserve (figure 7) ran by a regional conservation charity in the Midlands. The conservation charity selected Wetlands school, due to previously visiting the reserve and a large number of classes were involved in the outdoor learning programme. Every other year, each class (twenty five to thirty two children) from

Wetlands school would visit the nature reserve, and I observed each class as they visited over a three week period in February 2015.

Figure 7: Inside the bird hide at the nature reserve

Before the visit, teachers from each class gave families information and consent forms for the study. The response rate was very good with between four to eight children taking part from each class. The conservation charity runs an outdoor learning programme for children of all school ages, it is popular and during term time hosts visits daily. There is a set programme offered that is designed around the national curriculum, but teachers can make requests for other activities and other themes to be covered. The programme involves one off structured encounters with the more-than-human by exploring it through a scientific lens by doing activities such as bird watching and identification, pond dipping and owl pellet dissection. A typical visit involves the day beginning in the classroom located in the nature centre, the class splits in half to do activities (e.g. half the class will do bird watching whilst the other half does soil sampling). The groups return to the classroom at lunchtime and then swap over doing a different activity before returning to

school. I stayed with the group of children who had consent for the study throughout the visit and I made observations as they took part in activities, but also moments in between them (such as travelling between sites). A week after the final class had visited the nature reserve I visited the school for the day and conducted focus groups.

### *Researching with children*

The NSSC paradigm has reconsidered children as agents and participants in social life whose voices and experiences adults can learn from (Alderson, 2013). In the field, this approach can be potentially problematic, as it blurs the boundaries between child and adult when in our society it is seen as necessary to have strong structures surrounding children to protect them. Boundaries were especially apparent and strictly enforced, due to the study taking place in primary schools, in order to protect children from potential harm. For example, some children wanted to film their walking interviews, which this was not possible, because I did not have ethical permission from Keele Ethic's committee to do so. Even if ethical approval was given it would very difficult for me to analyse the material, due to the schools strict rule on digital data. Such a recording would need to be made on a device owned by the school and then subsequently kept in school. I was governed by existing social structures, and to break down these frameworks would put participants, gatekeepers and me in a precarious position that could result in harm. Therefore, I tried to follow a messy/open approach when possible, whilst following ethical guidelines and expected practices in each of the research sites.

From the acknowledgement that children can be capable social actors a set of Participatory Research Methods (PRM's) have emerged that aim to empower participants by allowing

them to design, conduct, analyse and reflect upon research through their full involvement (Pain, 2007). PRM's include a broad set of methods, ranging from write-draw photo diaries (Langevang, 2007), scrap books (White *et. al.*, 2010), mapping (Madaleno, 2010; Villanueva *et. al.*, 2012) and participants as interviewers (Cahill, 2004), which involve participants in decision making processes (Kirby and Woodhead, 2003). The PRM that the researcher chooses and how they apply the method depends upon the conceptualisation of the child (Punch, 2002). Thomson (2007) identifies two main approaches to conducting PRM with children; one approach involves viewing children as the same as adults and therefore they do not require any special methods. Participants in Cahill's (2004) study of young women's lives in New York designed the aims, questions and methods used in the research, and they conducted interviews. The other approach, views children as having different competencies to adults and perceives them as more vulnerable than adults, and therefore they require methods that are tailored specifically to their needs (Blazek and Hranova, 2012; Jupp-Kina, 2012; Punch, 2002). The nature of this research project meant that it was not possible for children to be involved in the design of the research, due to constraints upon the schools time and their desire to have a clear idea about how the research would be done.

PRM is often heralded as a way of co-constructing knowledge and equalising power between children and adults (Pain, 2007; Thomson, 2007). It is suggested that PRM allows the child to participate on their own terms enabling their voices to be heard when they have largely been absent from traditional research methods (Pain, 2007). Pain (2007) argues that PRM offers a diverse toolkit, from photography to mapping, allowing children to represent their views using mediums that they may feel more comfortable and/or communicate more clearly with. Children's geographers have raised concerns about the

uncritical use of PRM and they have highlighted that they often involve processes that aim to regulate them (Ansell *et. al.*, 2102; Porter *et. al.*, 2012). By changing research methods to those that are perceived to be more child friendly does not diminish existing power relations. By using a method that is specifically designed for children it suggests that they are different from adults, have differing capabilities and need more structured ways of expressing themselves. A researcher may have good intentions when using PRM to resolve power relations, yet often new power relations are created or unwittingly the child-adult dichotomy is strengthened (Cooke and Kothari, 2001; Kindon *et. al.*, 2007).

One of the key issues highlighted by children's geographers when researching with children is the power imbalance that exists between children and adults. Holt (2004) suggests that research relations between adults and children have frequently been exploitative, and mirror unequal power relations that exist in society. Research that has explored children relations with nature generally relies upon adult observations and more traditional research methods, such as questionnaires, and therefore fails to represent the perceptions of children, as adults talk for them (Linzmayr *et. al.*, 2014). To overcome these shortcomings and to research in a more open way I became an active participant in the ethnography allowing children direct me, as well as the walking interviews. I drew my conceptualisation of children from work in the NSSC, whereby children are not seen as objects of research and I worked with children rather than doing work on children (Punch, 2002). This study recognises that children do have agency and therefore are able to speak for themselves giving an account of their own experiences and ideas surrounding nature and the outdoor learning programmes.



Power relations between children-adults have been framed negatively by the NSSC literature, as adults are portrayed as exploiting their position to make children do things against their will. Research with children shows that their experiences of adult control are nuanced and more complex than conceiving them in dialect terms (Benwell, 2013). Benwell (2013) found in a study of children's mobility in South Africa that children's sense of autonomy and/or restriction in these spaces was highly variable. Some children revealed that there were moments when adult surveillance provided reassurance, whilst they attempted to subvert spatial control from them. In this research, I have attempted to be sensitive to the complexity of child-adult power relations. In order to develop positive relations with my participants I did attempt to try and lessen the social distance between myself and them in order to create a more equal relationship. For example, asking children to call me by my first name, only becoming involved with their activity if invited me and I would talk to them as I would an adult just changing my use of language if they did not understand or asked me to.

I was still constructed as an authority figure with older children calling me Miss and others reporting to me things that other children had done to them. I responded to these situations by telling children to talk to each other and sort out their differences, rather than telling me about them. Despite my efforts to make my relationship more equal and to encourage children to take control of the interview process, for some children the process of being interviewed was one that they found stressful and intimidating. I made it clear to all interviewees at the beginning of the interview that they were able to end the interview at any point; because Mia [9, *MS, F, Wh.*] and Helen [10, *MS, F, Wh.*] seemed so uncomfortable I ended the interview early. The girls during the interview said that they wanted to do it, but their body language and responses did not match this. They seemed to

feel obligated to take part, due to the expectations of Anna. Helen's and Mia's interview shows that doing research with children is not neutral, and that often children will still continue to perceive adults as authority figures. This perception can result in children becoming involved in research when they do not want to be. Therefore, power relations in research with children are complex and unpredictable, it is not possible to prevent power imbalances, but still when I was aware of child-adult relations being uneven I would acknowledge them and attempt to find ways to combat them.

### *Ethics*

Institutional ethical frameworks governed this research and it was designed in line with Economic and Social Research Council (2015) guidelines and underwent ethical review by Keele University ethics committee. These guidelines prescribe that good ethical practice involves ensuring confidentiality, legality, respectfulness and consensuality when working with participants (*ibid.*). In order to adhere to these guidelines I underwent a DBS disclosure and the parent/guardian of each child taking part gave written consent. Individuals also gave verbal consent before taking part in the study and before being interviewed and confidentiality was maintained by anonymising the information collected by using alternative names in note books/transcripts. However, in reality of doing this study the guidelines were not definitive and did not anticipate all of the happenings in the fieldwork (Horton, 2008). Therefore, ethical care in this research went beyond institutional frameworks adapting to situations as they arose and were shaped by the context of the event. I was guided an ethics of care and justice, whereby "research needs to acknowledge children as human beings, uphold their human rights and dignity, and respect the implications of how their values inform or shape research relationships"

(Abebe and Bessell (2014: 132). For example, in Meadows and Garden school children would often be very tactile with me and as I had built up a relationship with these children over weeks I felt that it was respectful to them to hug them back and hold their hand rather than avoiding physical contact. Yet, I was also mindful that I did not want this relationship to become perceived as a friendship, so I would always convey that my time with them was only at school for the period that I was there for. I was guided by an ethic of care throughout my research to ensure that respect and dignity were at the forefront of my relationships with all participants.

### *Theoretical framework*

As the research unfolded it was a process defined by uncertainties and complexity, and I am going to reveal messiness by through the lens of post structuralism. Post-structuralism is particularly useful theoretical framework as it rejects natural-human dualisms that result in knowledges becoming fixed, linear and hierarchical (Deleuze and Guattari, 2000). Knowledge is understood as being limited, specific and partial, rather than being universal and true, countering notions of objectivity (Haraway, 1991). Through post-structuralism the world can not be predetermined or reduced to cause and effect relations as we can never come to know its full complexity, instead our knowledge is and always will be partial (*ibid.*). I took a more-than-social approach to reveal the complex entanglements between more-than-humans and children. The more-than-human and child are not seen as external objects, which are stable and unchanging, but as being in continuous flux, as new knowledges continually emerge through encounters (Deleuze and Guattari, 2000). Phenomena are seen as being defined by their capacity for affecting and being affected through spontaneous encounters (Deleuze and Guattari, 2000; Haraway, 1991). An

encounter happens through experiencing the world when phenomena meet, it cannot be thought, but is sensed by the body (Deleuze, 1994). From the coming together of phenomena learning takes place about the world with knowledges being created, challenged and remade (*ibid.*). By approaching knowing and learning about the world through encounters then this encourages us not to fix phenomena into predefined categories and theories, but instead to be open to understanding the world in new ways. Therefore, throughout the fieldwork I attempted to be open to new ideas and ways of doing things by allowing the participants to direct me, paying attention to the mundane and for themes to emerge throughout.

Although, more-than-social relations were at the forefront of this research it became clear during the fieldwork that I could not ignore the discursive nature of childrens' performances of gender and ethnicity. This work turns to the theorising of Barad (2007) to draw together a more-than-social approach with performativity, whereby materiality and discursivity become understood as entwined (*see p.31 for a more full discussion*). Performativity was used a concept to explore participant practices in the outdoor learning spaces in order to reveal the ways that participants constructed ideas surrounding nature, childhood, gender, ethnicity, learning and knowledge (*see p.72*). Through a performative approach the body becomes central to understanding the world and in the analysis chapters embodied ways of learning and knowing in the ethnographic sites will be examined. However, it is important to emphasis that when using this approach I have done so in a compromised way, as I have not been able to fully express the totality of the performances that I witnessed (Thrift, 2003). They have been reduced down into text that has recorded in my fieldwork diary, and therefore I will have missed fleeting moments that may have revealed more about individuals emotions, ideas and practices. Potentially photographs

and video recordings could have captured performances more fully, but I was prevented from making such representations, due to ethical concerns expressed by gatekeepers (*see p.100*).

### *Ethnography: Following the...*

The research involved an immersive ethnography, including observation, participation and interviews/focus groups in each of the four ethnographic sites during the school year of 2014-2015. Interviews/focus groups gave an insight into participant perceptions of the outdoor learning programmes, whilst ethnographic observations revealed power relations and relations between phenomena. I initially focused upon learning the routines and rituals of each site, making field notes about what I observed, but this was not practical. To be active in what was happening and make notes at the same time was just not possible, so I would write up briefly what I had experienced shortly afterwards. I would then use these notes to make a more detailed fieldwork diary entry that was typed including events that had happened, the things that had been used, child movements, more-than-human encounters, reflections upon my involvement and emotions. By doing field notes after the event I found this enabled me to be more open to the doings around me and to be more responsive to the participants rather than scribbling away in a note book. This more flexible participatory approach opened my eyes to the importance of the more-than-human in the co-production of space, particularly surrounding the activeness of different materials and their effects upon movement.

Ethnography is based upon ontology of being in, whereby the research subject is understood as fluid and incomplete, and therefore cannot be a static representation 'as they

are' (Woodyer, 2008). By being in, I participated in the doings of the outdoor learning spaces by helping children with a range of activities from tying shoe laces to helping with den building when asked. Through these doings I became aware of the potential relations that the body has with other bodies, objects and things. However, the co-constitutive role of more-than-humans within spaces and upon individuals is often overshadowed or neglected (Haraway, 1991). When taking part I applied Garfinkel's concept of 'making the strange familiar', the destabilising of activities that are seen to be ordinary and often unquestioned, I became aware of the influences of the more-than-human upon the body, in terms of movement and affects. It is the things that go on in the background, the unsaid and what is often considered banal that provides much to be learnt from (Horton and Kraftl, 2006).

Ethnography is particularly open to challenging truths and binary thinking, "by facilitating a focus upon interconnections between things and people in specific spatial contexts and within the present moment" (Holt, 2013: 654). Ethnography, in this research, was used a way to follow connections of objects, bodies, practices, animals, plants, mud, smoke, imaginations and ideas across the four research sites (see Cook, 2004). These things that I have listed were not selected prior to the research place, but arose as I became immersed in the research sites as the ethnography unfolded. They became important things as they were involved in the co-production of space, learning and knowledges. For example, initially mud became a significant thing because of the ways that children dug at it with sticks and their shoes then rolling it in between their fingers in the fire square at Meadows school. These actions drew me to mud, and then I followed it in and across sites, which led me to make observations about the affects that mud had inside Garden and Meadow's

school (*see p.213*), and the clothing provided at Woodlands school to try to minimise its messiness (*see p. 215*).

Following the movement of bodies in and across sites was an important part of this research, which was conducted as a 'go-along' (Kusenbach, 2003). The 'go-along' is a technique whereby the researcher moves along with participants during multi-sited ethnography (*ibid.*). This involved following participants during the outdoor learning sessions and then conducting audio-recorded walking interviews with those from Garden, Meadows and Woodlands schools. I followed children throughout each outdoor learning session, as they got ready, moved to the space, sat as they were given instructions, carried out activities, collected sticks, mud and worms, ran around, played games and returned back to the classroom. From these movements I came to understand how design of spaces and presence of different things shaped thoughts and actions. The trees slowed movements, allowed climbing, encounters with animals, marked territories, were incorporated into home making and sparked imaginations. It is important to highlight that I did not just explore motion, but also to potential movement, being immobile and bodily practices, which are viewed as being constitutive of economic, political and social relations (Urry, 2000). By following children this gave me an insight into relations between them, adults and more-than-human phenomena in each space revealing power and agency in doings.

Once I had followed the participants around and I felt that they were comfortable in my presence I would invite them to take part in a walking interview. Before the walking interview began I would explain to children that I wanted them to give me a tour of the space and tell me about their experiences. I would then ask individuals if they still wanted

to take part, but made it clear that they could leave the interview at any time without giving permission. The openness of the research methods allowed children to conduct interviews how they wanted to. A member in the group would hold the Dictaphone; some groups would pass it between them, whereas with others I needed to encourage some children to allow their peers to hold it. At times I was absent all together from the interviews, as children moved more quickly and nimbly than I could, around the woodland and the garden. Thus, more traditional researcher-participant relations were often challenged with children steering the interviews by taking charge; choosing where to lead the interview, moving in different ways (being still, running, jumping, walking) and through forming their own questions that they asked each other.

Participants showed me around the outdoor learning space giving a commentary as they did so, with few interruptions from me, as I tried not to intervene in the interview at this point and saved questions that I had for the participants till the end. Although, if a subject emerged in the interview that an individual did not go on to fully explain, I would follow on by asking an appropriate question. I asked the same questions at the end of each interview at Meadows and Woodlands school including what do you learn when you come to forest school? Is there anything that you have learnt at forest school that you have then done at home? My last question is what is nature? At Garden school children, who were aged four, would often run off part way through their tour of the garden. The participants through the walking interviews were prompted by connections and meanings in the surrounding environment that may result in them revealing information that would have remained hidden (Evans and Jones, 2011; Riley, 2010). By being flexible the 'in place' interviews seemed to be more relaxed than focus groups, with children responding to their surroundings.



### *Focus groups*

Focus groups were only held with children who attended Wetlands school, due to walking interviews not being a viable option, as children only visiting the nature reserve once and it was located over twenty miles from the nature reserve. The school wanted me to conduct the focus groups on the last day of term as this was felt to be the most convenient time and one that caused less disruption to classes. Five to eight children took part in the focus groups and they belonged to the same class. The focus groups took part when children were having lessons, and they lasted between thirty to ninety minutes. The shorter focus group was constrained by an over running assembly and the others length depended upon the answers that children gave. Each focus group was recorded on a Dictaphone, so that the whole dialogue could be captured and transcribed for analysis.



Figure 8: Kylie's picture.

The structure of the focus group begun by asking children what they did at the nature reserve, before doing a write/draw activity, shown in figure 8, involving mixture of words/text documented their experiences (*see* Pain, 2004; Kesby 2000). This technique is

a Participatory Research Method (PRM) it was chosen, due to it been seen to be a way that children can express their viewpoints more readily and potentially minimise power relations (*ibid.*). Once children had finished there representation they were given stickers with faces on and they were asked to look at the pictures and place a suitable face upon it in terms of whether they felt they had a (dis)similar experience. The activity did reveal a number of different experiences that children had at the nature reserve both positive and negative, which they went on to, discuss in the focus group. Many children seemed to enjoy this activity; with some saying they preferred it to class work. All bar, one focus group, ran relatively harmoniously with children taking it in turns to speak and they got along with each other. In the final focus group, Jack [9, *WetS, M, Wh.*] and Richard [9, *WetS, M, Wh.*] bickered with each other throughout and they used the write/draw activity as a way of insulting each other. On a number of times I had to intervene, as Jack and Richard would argue over other participants as they spoke during the focus group and this became difficult to manage. Both boys did have insightful comments to make and I encouraged them to listen to others and consider the impact of their comments upon them.

There were some serious shortcomings when using the write/draw activity as a research method. During the activity it became clear that some children felt more at ease with doing this type of activity than others. For some this activity highlighted their weaknesses and even became humiliating as other children used it as a way to reinforce their dominance. For example, Kylie [9, *WetS, F, Wh.*] was dyslexic the other children made comments that her spellings were wrong, they could not read her writing and they berated her when asking me how to spell some words. Kylie's experience in the focus group connected with the feelings of humiliation I felt at school, when I struggled with spelling, grammar and illegible handwriting myself. I attempted to align myself with Kylie and

give her some support, by telling the group of my struggles with literacy, how it made me feel and ways that I coped with it. Although, there was little reprieve from comments about Kylie's literacy skills. Another, shortcoming of the write/draw activity was highlighted during the group discussion of the pictures with some taking it to be a peer assessment activity, whereby they rated the quality of others work. This was despite my efforts to avoid this and some children offended others by making personal comments about their work. Thus, demonstrating how assessment culture is deeply rooted in primary education and internalised by children so that it permeates their thoughts and actions. Overall, I found this technique reinforced power relations between different groups of children limiting its effectiveness and questioning opening up questions about its efficacy.

### *Positioning?*

In order to attempt to lessen researcher-participant power relations social scientists have used positionality as a way of reconsidering relationships and the place of the researcher. Positionality is the self examination of a researchers identities and how these intersect so that the researcher comes aware of their social situatedness, which may influence aspects of the research, such as participant-researcher relations and the interpretation of data (Skelton, 2001). This heightening of awareness about ones situation in research supposedly results in the researcher being able to locate themselves within various social structures, so that they understand how their position influences how they see the world (Hartsock, 1987). By becoming aware of power relations within the research then it has been suggested that the researcher can develop strategies that minimise the risk of dominating participants (Pain, 2003). Positionality is understood as a strategy used by researchers to contextualise observations and interpretations through the identification of

key political aspects of the self in order to make relationships more equal (Cloke *et. al.*, 2000). This has resulted in researchers working with children positioning themselves in a number of different ways in order to minimise preconceived power relations. A number of stances have been taken including as an 'another adult' (Mayall, 2000) and the 'least adult role' by aligning themselves as a friend (Gallagher, 2009). Yet, these positionings effectively reinforce the child-adult divide as researchers bring assumptions about children to their pre-defined position.

A central problem with positionality is that to situate the researcher they are understood as isolated, and as being in control of the relations that they have with a range of actors (Crang, 2003). As Horton and Kraftl (2006, p.78) state "our encounters with the world are always complex, personal, and not always sayable, noticed, understood or available for reflection or representation." Our identities do not pre-exist our performances of them, and therefore identity cannot be fixed before an encounter, and remain uncertain (Deleuze, 1994). Therefore, I do not see that a researcher's position in the research process is knowable, due to the complexity of how research identities are co-produced in ways that unexpected and spontaneous. In response to these concerns, the work of Deleuze (1994) can be used to aid the researcher in the navigation of social relations within research. Deleuze (1994) argues that by exploring identity we reduce the possibilities and narrow our perspective of the world, as through this reductive approach the world is simplified into categories. Deleuze and Guattari (2000) envisage an immanent field of relations that are enacted, assembled and broken down in the course of events from which subjects continually emerge. Deleuze (1994) calls for ontology of difference that does not seek truths, but understands that multiple perspectives exist and that there are potentially numerous future possibilities. From this approach the world is no longer a collection of

separate subjects with their own knowledge and agency, but a profusion of encounters and events between phenomena from which knowledges and subjects become (*ibid.*). From this standpoint a researcher's position cannot be fixed and/or predetermined, their identity is constructed relationally and is in continuous flux. Essentially a researcher has numerous becomings some of them known and others unknown.

I did not take up positions during the study; instead some children assigned me identities that I then performed. For some children I became a helper, they directed me as they built dens, others incorporated me into their games, others saw me as an adult authority figure and a few ignored my presence. These positions were always temporary and were (un)made continuously in each session, but across them as well. For example, in the school Ricky [3, *GS, M, Wh.*] was digging leaves, he then puts down his spade and starts jumping, he says to me look you can see my footprints and he then moves away directing me to dig as he watches. He then stops me because I am digging holding the spade with one hand and then he shows me how to do it 'properly' before directing me to dig again. Ricky by directing me ruptures child-adult relations and he is able to assert control in this situation. This event was made possible due to being open to possible becomings with other phenomena, and it reveals how even young children have the potential to shape adults actions.

Positionality in its current guise is very much focused upon the human, but through relationally approaches, more-than-humans are understood as having capabilities to shape the position of the researcher. Haraway (2008) acknowledged that being human is always a becoming with a multitude of others, and in terms of what we become in our research we need to consider the multitude of phenomena in that process. In this particular piece of

research worms became connected with the participants, they were joined together by shared histories and experiences, curiosity and disgust, care and destruction. The worms affected me as well, and the ways children encountered them included intentional mutilation, observing, homemaking, displaying, abjection, anthropomorphising and expulsion of them. For example, Tim [7, *MS*, *M*, *Wh.*] and Ben [7, *MS*, *M*, *Wh.*] during forest school began to hammer the surface of the ground with a rake, worms began to come to the surface, they continued, I intervened to try and stop them hammering the worms, but they continued until Anna intervened. This event highlighted to me the vulnerability of worms in the forest schools and school garden as they would often become playthings. Therefore, my thoughts were shaped by encounters with the more-than-human affecting my behaviour within the research.

### *Analysis*

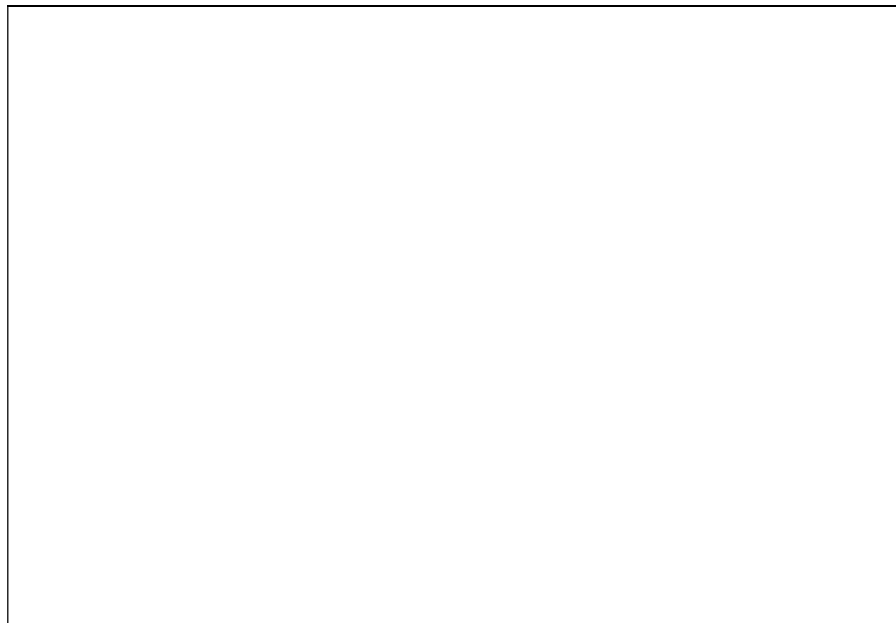


Figure 9: Messy analysis

The analysis of data took on a messy approach, as you can see from figure 9, materials that I had collected including schemes of work, lesson plans, leaflets, pictures drawn by children, interview transcripts, notes from my fieldwork diary and other scribbles covered the floor. If I wanted a neater approach that would have ordered by data and kept it neatly I would have used a computer assisted software package, such as NVivo. By working with paper, I was able to move it around, make it messy or more ordered and select materials making quick visual comparisons across the data.

I did not use predefined themes, theories or codes to explore the data, resulting in information being forced into categories and potentially ignoring complexity (Silverman, 2011). However, I needed to some way to make sense of data, and structure it into meaningful messiness so that I could present it in a new order. The process of qualitative data analysis reduces data through ordering and structuring, but I attempted to do this in a way where it still retained some mess in order to capture some of the nuances and the complexities when representing the outdoor learning spaces. I turned to grounded theory, whereby "data collection and analysis are interrelated processes" (Corbin and Strauss, 1990:6) and "concepts are the basic units of analysis" (Corbin and Strauss, 1990:7). When using grounded theory the researcher should look at each text with fresh eyes without any predefined questions which are asked of the text, instead questions emerge through the analysis (Bryman, 2008). It is impossible to look at anything with completely fresh eyes, as it ignores the discursive nature of human lives with past bursting and rupturing into the present (Nash, 2000).

Grounded theory suggests that research processes can be broken down into procedures and data can be coded (Corbin and Strauss, 1990). The analysis involved working through the

empirical data and theory together, with fieldwork used to explore theoretical ideas, but on other occasions this work drove me to explore new and unconsidered concepts and ideas. The research involved theoretical development and analysis together during the fieldwork stage, whereby some concepts such as structure-agency became clear themes and afterwards through a number of re-readings of the data. The flow of ideas between fieldwork, empirical data and theory between multiple sites that were researched simultaneously was messier and complex than a typical grounded theory approach. The analysis was an iterative process, sometimes I would read whole transcripts, some times just parts. The analysis flowed between materials, maybe pictures, photographs or documents, as this happened I would highlight commonalities and disconnections, whilst making notes on those things that particularly struck me. Through this process of reviewing the data themes emerged, which I would then summarise on a single sheet of A4 paper with words that I felt best described it. Looking back over the data I looked for where the themes fitted or did not, and turned to social theories to explain them. Many of the themes emerged across the multiple ethnographic sites showing connections between them. Therefore, I decided not to present them as separate dislocated case studies in the following analysis chapters, but as a part of a continuous narrative.

### *Conclusion*

To summarise this research has been conducted through the lens of messiness in order to attempt to reveal more of the intricacies and complications that arose whilst doing this study. To capture the complexities of relations in each ethnographic site I used performativity and more-than-social approaches as a framework to examine both discursive arrangements and more-than-human-child relations. Throughout this chapter I have exemplified the messiness in the research from the recruitment stage, working with



children in institutional settings from which ethical dilemmas arose, negotiating relationships, the adapting of methods, the actualities of doing the research and the process of analysing the data. When possible I attempted to follow a messy/open approach, but at times I was constrained by ethical guidelines and expected practices in each of the research sites.

## **Chapter 5: Knowing childhood and nature**

This chapter will explore the ontologies that emerged from the outdoor learning programmes that took part in this project. The analysis in this chapter involved examining various materials that I collected from the ethnographic sites, including lesson plans, schemes of work, leaflets, letters sent to care givers, website and twitter postings, as well as drawing upon ethnographic observations and interview transcripts. It begins by exploring how nature and childhood are constructed in the outdoor learning movement, and how a particular conceptualisation emerges- the natural childhood. The prevalence of the natural childhood influences how knowledges are formed, as more-than-humans and children become passive phenomena in need of adult care. Through the natural childhood, nature becomes healer to the perceived disorder that children are living with (Louv, 2005; Gill, 2007) (*see p. 41 for a detailed discussion*), and this will be examined in detail below. The chapter then moves on to examine another dominant ontology in the outdoor learning programmes, which involves knowing the world through science, and in particular through observation, identification, classification and experimentation (Hacking, 1991; Chambers, 1999; Kuhn, 1970). The final section of this chapter explores how bodies respond to subjectification, at times in ways that were unexpected and defied disciplinary power.

### *The natural childhood*

The natural childhood discourse has become increasingly visible, as it currently dominates ideas that surround nature/childhood in popular media and the outdoor learning movement. The creation of the natural childhood relies upon nostalgic remembering with adults connecting to idyllic memories of playing outdoors, as the statement by Woodlands forest school teacher below suggests:

“Today’s children spend less time outdoors than their parents and grandparents did. They are missing out on physical activity, learning about the natural world, and the opportunities to make decisions and take risks” (*Woodlands Forest School website*).

Through this extract past childhoods are remembered nostalgically, in contrast to contemporary childhoods, as being supposedly freer, happier and outdoors. The forest school educators attempting to reproduce imaginings of their childhood through children that take part in forest school. The emergence of contemporary forms of the natural childhood relies upon adult sentimentality that is drawn to ideas that children have lost connection to nature (Malone, 2015). Simultaneously, modern society is viewed as embedded with a number of ills, such as consumerism and too much screen time, which supposedly result in disordered childhoods (*ibid.*).

The natural childhood limits the ways that childhood is made sense of, regulating the identities of children and their interactions with the world. This narrowing of childhood relies upon a coherent notion of who children are and how they relate to adults, but also what nature is and how children relate to it. The strengthening of Rousseauian ideas surrounding nature and childhood through popular media has effectively limited the more-than-human and children to passive phenomena in need of adult care. Children and nature are portrayed in similar ways across the media and they have effectively been immobilised with very few representations challenging the reification of the child-nature connection as idyllic. For example, a collection of photographs by Gordon (2015) entitled 'Forest schools - learning in the great outdoors' published in the Guardian online exemplify the fixing of children as innocent and nature as nurturer. All of the pictures show children in the woods encountering the more-than-human world in some way. The images themselves

and their titles suggest that the natural world has a power over children to shape their ideas and bodies, particularly in terms of care. Following in the footsteps of Romanticists, these images suggest that being in the woods sparks imaginations and ideas as children freely experience them, enabling children to be creative. In essence, these images show the woods in separation to children's daily lives, as therapeutic spaces that promote wellbeing and healthy bodies as children appear happy and carefree.

The construct of the natural childhood becomes naturalised, accepted and cemented as truth through the circulation of similar ideas about play, health and gender (Vanderbeck, 2008). The woods, in many childrens books, appear to be a space where children are happy and healthy as they play in purposeful ways with materials or just stand still absorbing their surrounding environment. For example, *Wild* (2013) by Emily Hughes, is a story about a girl who is abandoned in the woods and grows up in them until she is discovered by some hikers who take her to the city. In the book, the woods are presented as a place of freedom and happiness, in sharp contrast with the city, where she feels trapped. Through such representations, it seems that in the woods children can 'find themselves' through their separation from unsuitable adult social worlds and emplacement in the pre-social context of nature (Prout, 2005). These representations are emotive, appealing to adults to protect children and to keep them innocent with nature as nurturer, which becomes possible through the imaginings conjured by them. They shape the viewers attachment to the subject, teaching them to feel in certain ways about nature-child relations. Thus, they are inherently political, as they shape how we feel, think about and therefore act towards certain subjects (Deleuze and Guattari, 2000). The woods become a space where children can be cultivated into competent adults. In order to pursue certain

political and moral agendas, and yet again relations are framed in terms of adult domination over children (Taylor, 2011; Wake, 2008).

The natural childhood is embedded in the outdoor learning movement, as the following statement from the *Wild Thing Project* (a network of organisations that promote outdoor education, and includes forest schools and the conservation charity taking part in this research) suggests:

“We are The Wild Network. A growing movement of people on a mission to re-wild childhood. Together we want to help kids roam free, play wild and lead nature rich lives” (*The Wild Network, 2015*).

The quote echoes Rousseau, with explicit connections made between nature and childhood through the idea of re-wilding, with nature reshaping the child away from their perceived indoor childhood to an outdoor one that is portrayed as freer, healthier and happier. Yet, a paradox lies at the heart of the natural childhood construct, with adults as the facilitator of this better childhood, the child-adult divide is reinforced and relations of dominance over children are maintained. Children in essence become passive in need of adults as it is suggested that adults are needed to guide children's holistic development through observation, reflection and planning by forest school practitioners (Forest School Association, 2011). This is shown through adults making decisions on behalf of children at Woodlands school, as going to the wood is a compulsory activity and children's time is often structured with pre-determined activity. The second form of passivity is associated with the active and specific organisation of 'how children should interact with nature', and merges with notions of how nature can be and should be known. Not only are adults framing the supposed appropriate development of the child, they are also portrayed as experts who transmit their knowledges to children so that they can make sense of the

world, rather than children being able to develop their own understandings. This is summed up by a forest school teacher writing for the Guardian teacher network blog "...adults are gatekeepers to children's understanding of the world and we should stand up for their right to have authentic experiences" (Ling, 2012). Within outdoor learning it is adults who are suggesting that they should define the experiences that children should have and such a view neglects the agency of the child and their capabilities to experience the world.

### *Knowing nature as therapeutic*

In response to these concerns about children's wellbeing, education in the UK has become increasingly focused upon emotions (Ecclestone and Hayes, 2008). This fosters a particular ontology of what it is to be human, one where emotions are seen to govern the body. The outdoor learning spaces reflect broader trends in education towards offering quasi-therapeutic experiences (Ecclestone and Hayes, 2008). Engagement with the outdoors has become seen as a form of therapy "with troubled young people referred to Forest School because they are struggling to manage their behaviour in mainstream settings" (Knight, 2011: 71). The forest school practitioner is seen as a mediator between the child's body and their emotions, whereby after an perceived emotional outburst the adult talks to the child about what they just did so that in the future they can control their emotions and potentially behave in a different way (*ibid.*). Nature is often ascribed with healing properties for both children and adults; it is regarded as potentially alleviating perceived health risks, such as sedentary living, stress, staying indoors and increasing social isolation and as a way of transforming disordered individuals (Seaward, 2013). The more-than-human becomes a tool that enables practices that are perceived to manage

emotions, including becoming a prompt to talk about feelings/experiences and something to be played through the process of negotiating emotions.

The outdoor learning spaces in this study can be understood as therapeutic landscapes that have been modified or specially created to meet a social need for a place of wellness (Gesler, 1992). The location of these spaces and the materials that constitute them reflect the ways that health is socially constructed in society with environmental features considered to mediate specific activities and (un)healthy practices that produce wellness (Guthman, 2012). The garden and the forest schools are separate physically from mainstream school. They offer different forms of engagement with materials, than inside classrooms, that are perceived to be natural and as having calming properties promoting mental wellbeing. Jane, a TA from Garden school, focuses upon the transformation of the child from disordered to calm, as the quote below suggests:

Jane [TA, GS, F, Wh.] (*see p. for coding key*): Some of the children who are not so much stressed or upset, but maybe the ones who are quite loud or a little bit boisterous need to come in just to calm, its almost sensory through the mud and the smells, its essential to calming down and chilling out and de-stressing really and I think it is very important.

Jane highlights how the school garden becomes a space of social transformation, where those children's bodies that do not fit into the normal behavioural expectations of the school can be ordered. The more-than-human in essence becomes a tool through which to provide therapeutic engagements so that the child can be transformed into an ideal citizen, who is resilient to an array of issues that they may face. Therefore, nature as therapy is a powerful idea that manages children's and adult's bodies and it is built upon the

assumption that they have become fragmented, creating disorder and that they can be 'put together again' so that they become healthy and happy. Children's experience of the world is universalised as being negative and this does little to genuinely understand children's emotions and the complexity of their daily lives.

In the context of outdoor learning spaces mud is believed to be therapeutic. Due to its tactility it can be shaped and worked with over time through making repeated movements in what is regarded as a meditative process in proximity to a flow of experiences in which people forget themselves (Csikszentmihalyi, 1975, 1990), as the quote below shows:

Jane [TA, GS, F, Wh.]: I would like to introduce some mud therapy where they are moulding with the mud and it is a nice tactile activity... at [local primary school] they made the mud balls which is meditative and a type of therapy...I think if I had known this sooner then some of the children that have struggled this year maybe would have chilled and calmed down a lot sooner, even though they are all settled now it may have helped settle them a bit quicker.

Jane describes how the making of mud balls is a therapeutic activity that has the potential to calm children so that they are ready for mainstream learning, particularly when the academic year starts, which is perceived to be stressful as they are introduced to a new routine. This is a structured activity that can be understood as the individual coming to know nature through bodily experience. Drawing upon the work of Foucault, therapy here can be understood as a technique to regulate that self. A disposition is created that is welcoming towards therapeutic practices that invoke an imaginary that mud has restorative powers (Dawney, 2011). The self is seen as contained and if an individual chooses they can improve their wellbeing if they partake in mud therapy (Rose, 1999). From this



perspective these structured encounters with can be translated teleologically, where they served a distinct purpose to socialise and develop children into ordered and well behaved citizens (Rautio, 2013b).

Forms of therapeutic education involve the teaching and learning of a set of explanations and underlying assumptions about what are appropriate emotions and responses to events (Ecclestone and Hayes, 2008). The encouragement of specific emotions was clearly visible in the forest school. Woodlands are often presented as a location beyond people's everyday lives, where the unexpected, the weird and the strange might occur. Thus, experiences in woods can be presented as liberating from the banality of everyday life, but also as dangerous and scary. Our physical and psychological response to woodland is heavily influenced by our exposure to cultural practices and beliefs that are circulated in a range of representations (Davidson and Milligan, 2004). For some children, the riskiness of being in the woodland is deeply appealing, as they test their boundaries and independence, as Ruby [11, MS, F, Wh.] reveals "Sometimes we climb the trees, even though we are not allowed". However, there were children who found being in the woods a terrifying and overwhelming experience, as the following excerpt shows:

A group of 8 children, with Lorraine [FTA, WS, F, Wh.], venture into the out of bounds section of the woodland, where the trees are denser and the path is narrow. As we walk along the perimeter path Tiffany [5, WS, F, Wh.] becomes very upset, she bursts into tears. She tells me that "I don't want to walk along this path because of the horrible prickles and I don't want to get lost". I try to console her by giving her a hug and I walk back to the fire square with her holding my hand. When we reach the fire square she stops crying and sits on a bench. This space is more open and one that is familiar to Tiffany. At the end of the forest school session the children were asked to sit around the fire square for reflection time. The

children were asked to show whether they had liked their time at forest school using their hands to make a sign. Tiffany put her thumb up, and then she said to the group “I like forest school its fun” (*Fieldwork diary, Woodlands school, 1/12/2014*).

For Tiffany, the woodland was a scary and bewildering place she became disorientated and frightened of the unknown, it is not until she is back in the familiar space of the fire square that she stops crying. Tiffany performs the expected emotional response, as to be happy in the woods despite her anxieties about it, showing how she has been conditioned. The more-than-human appears to have a stronger agency to Tiffany than she has over it, as she does not want to get hurt by the brambles and stinging nettles that have grown on to the path in places. Tiffany's response to the woodland challenges some of the simplistic generalisations in debates surrounding children's disconnection to nature that children always have beneficial experiences within outdoor settings and they provide a nurturing environment for them (see Louv, 2005). Therefore, a more nuanced understanding is needed of children's emotional relations to woods and other natural spaces that consider the multiple affects that they can have upon children.

Those children who are seen to not be in control of their emotions and/or those who are seen not to be responding emotionally in expected ways are deemed to need forest school (Knight, 2011). Forest schools, as the quote below highlights particularly target children who are categorised as having Special Educational Needs (SEN):

“Those with Special Educational Needs such as ADD, ADHD, Autism and Asperger’s syndrome are experiencing Forest Schools programmes in a range of settings and this is having a very positive impact on behaviour, learning, and therefore the ability to build stronger relationships with those in authority, where this may cause stress and

anti social behaviour in a more mainstream environment” (*Forest schools education website, 2016*).

The extract suggests that forest schools form a more inclusive form of education, as those who are different are freer and unconfined by the disciplinary mechanisms of mainstream schools, and therefore having a more positive experience. Yet, this universalisation hides the differences between children's bodies, their capabilities to act in particular ways and that not everyone accesses the world in the same way. A deeper effect of this universalisation is the premise that the more-than-human world can act as a therapeutic space, whereby children with SEN can be treated and normalised, so that their bodies and behaviour becomes more like that of other children. When learning is seen as therapeutic it neglects the insight that this group of children may have about the more-than-human world. They may perceive and sense it in different ways, and therefore bringing about new understandings of it. For example, those diagnosed as autistic often build relationships with more-than-humans that offer a broader set of possibilities, such as having emotional or social relations with worms or rocks (Davidson and Smith, 2009). Therefore, people with autism seem to have an openness towards the more-than-human that enables co-production to occur and for it to have multiple becomings that are unexpected and do not confirm to scientific categories (*ibid.*).

### *Identifying and classifying bodies*

Identification and classification are ubiquitous practices that shape all of our lives (Bowker and Star, 1999). Classification systems can be highly standardised through the consistent observation and measurement of properties, so that claims can be made that there is a high degree of certainty that the same judgements are made (Inkpen and Wilson, 2013). Yet, these processes are far from objective, as we impose our own values and

existing theories upon entities (Hacking, 1991), (*as is shown in a discussion on nativeness p.20*). Classification systems did vary across outdoor learning spaces, with nativeness and the categorisation of the ideal animal body present at the nature reserve, whilst naturalness as a categorisation was visible across all sites. There also were classification systems operating in the outdoor learning spaces that were not standardised, with children creating their own assessment criteria in order to sort different phenomena. For example, some children incorporated collecting and sorting into their play, with Isaac [4, GS, M, Me.] collecting rocks from around the garden. After collecting them, he piled them up before sorting them by size, discarding those that did not fit into his criteria as he created a 'rock family'. The rock family echoed hetero-normative familial relations, with a mummy and daddy rock and their children. This event shows how when children order and sort more-than-humans they often enacted broader social discourses and that through this valorised a specific point of view, in this case the nuclear family. As with all classification systems the act of sorting and ordering gives life and belonging to some, whilst excluding others (Bowker and Star, 1999), and this point will be explored throughout this section

Identification charts were used at both Woodlands school and the nature reserve. These involved asking a series of questions that would be answered yes or no, or children identifying a specific feature, such as flower shape, which would eventually result in the naming of the phenomena. The classification frameworks were used without critical consideration, with animals and plants being placed neatly into one category or the next, in a process that appears smooth and objective. Children at the nature reserve were taught about the body of a particular bird through the use of representations, in the form of pictures and soft toys, rather than through observing real animals. The representations are spread along the path leading to the bird hide or meadow, they then have to spot the

pictures and follow the questions on the classification sheet to identify it or match it to a photograph. The pictures of the birds were all of birds that could be seen with relative ease, especially at the visitor centre, and they included a mute swan, a Canada goose, a moorhen, a great crested grebe and a coot. Once children had identified the pictures they then went bird watching in the hide where they are encouraged to apply what they have learnt and identify these birds, using an identification sheet with images. This approach was highly structured, directing children what to look at, how to look at it and how to categorise it. Through this method of learning children are assumed to lack competence, as passive receivers of knowledge who absorb it without critical analysis.

The effects of the highly structured approach to learning about birds at the nature reserve seemed to have been successful in training children to memorise and identify specific birds. Some children would call out the names of these birds once they had seen them in the hide and as they walked along the path. Also, at the focus groups children listed a number of birds that they had seen at the nature reserve, with some giving descriptions of where they had been seen. However, some children were dissatisfied with the way of learning about birds at the nature reserve. In relation to this Ryan said:

Ryan [7, *WetS, M, Wh.*]: We learnt about some different birds on the way there and we were trying to spot them and match their names to an image...I didn't like them [*the pictures of birds*] because they weren't real and I only like real birds.

Ryan reveals how children are trained to observe and identify birds at the nature reserve using representations, but he would rather learn through direct experience. The use of these representations in pedagogical practices makes assumptions about what children are like, and that they need instant gratification by identifying a bird quickly. It could be

argued that such activities infantilise children through the suggestion that they are not sufficiently adult to observe and learn by engaging with the 'real thing'. Also, the focus upon identification fails to challenge learners to think critically, as the placement of phenomena into neat categories, without contestation and messiness, is seen to be more desirable than children observing and debating difference. Therefore, a smoothing out of knowledge about the world takes place and it becomes devoid of complexity and nuance.

The processes of identification and categorisation were forms of governance that enabled bio-power to be enacted upon phenomena allowing some to belong in spaces of outdoor learning and others to not (Biermann and Mansfield, 2014; Lorimer, 2015). Animal bodies were processed and ordered, potentially enabling those bodies that do not fit to be excluded from that particular version of nature (*ibid.*). At the nature reserve species were identified as native and non-native, the charity that runs it seeks to create habitats and encourage the protection of specific native species. Non-native animals/plants were presented as others that are destructive pests, and therefore needing to be controlled. It is animals that are seen as non-native that are singled out by the charity as out of place, others in the landscape, enabling them to be potentially removed in order to protect so-called native species. The organisation identifies the following as "not being native"- the grey squirrel saying that they have "displaced the native red squirrel across most of England" and the harlequin ladybird "which has a voracious appetite and is able to out-compete our native species in the hunt for food. It will even eat other species of ladybird." Although, within the education programme these animals were not directly identified and ideas of nativeness were not explicitly presented to children, there was a clear sense that some animals belonged and others did not, as this fieldwork diary entry shows:

Some of the children get up out of their seats and they start wandering around the classroom, they spot a poster about British mammals at the back of the room and they start reading it. Simon approaches them and starts to tell the children about the mammals found on the reserve. He shows them a stuffed mole and fox that are on display in the classroom. The children ask if they were killed and he says they were dead already. Connor [9, WetS, M, Wh.] then starts to tell Simon about honey badgers; whilst Elliot [9, WetS, M, Wh.] says I know how big a blue whale is. Simon [OE, NR, M, Wh.] tells them that these are not native animals and not found on the reserve. Simon says to me they always know lots about non-native wildlife, but never anything about native animals. He says it is the books they read, it was the same when I was a child. (*Fieldwork diary, Wetlands school, 27/01/2015*)

This extract shows how Simon values native animals above those that he considers being non-native. He perceives that there is a knowledge gap between native/non-native species with children being more interested in those animals that are far away rather than those that are near to them. Simon explains this supposed knowledge gap by suggesting that children's books are empty of native animals, despite there being a long and rich tradition of 'British' wildlife represented in children's literature. For example, in *The Wind in the Willows* (1993) by Kenneth Grahame a toad, water vole, mole and badger feature, and more recently Michael Morpurgo (2012, 2016, 2017) has written a series of books about foxes. In his statement Simon draws upon discourses of incompetence, he presents children as not knowing the right types of knowledge about animals and the outdoor learning programme becomes an intervention through which a perceived knowledge gap can be filled (Taylor, 2013). Therefore, Simon presents himself as knowing what is best for children, as a more experienced and knowledgeable adult who can transmit his understanding to children filling them with meaning.

The presentation of children as incompetent and not knowing about animals is challenged by discussions in the focus groups where it was revealed that they were interested in a variety of animals and did not distinguish between whether they were native/non-native. Children in the focus groups spoke about woodpeckers, swans, red kites, buzzards, owls, small garden birds (such as robins and goldfinches), kingfishers, ducks, worms, frogs, snails, slugs and hummingbirds. They also talked about observing birds and other animals in their gardens, on the way to school and at school, challenging preconceptions that children have little interest or knowledge of animals that they may encounter in their daily lives. Animals, as found in Tipper's (2011) and Malone's (2015) work should not be seen as an optional aside in children's lives, but integrally important in them. Children in the focus groups showed how they had an aesthetic-affective openness towards the more-than-human (Harker, 2005), as they did not see animals as native or non-native. Instead, they understood the more-than-human world in a less bounded and looser way, rather than rigidly applying classifications to species.

At Woodlands school, nativeness was not used as a way of classifying plants or animals; instead frameworks for classification were directly linked to the National Curriculum (2015). At the forest school the objectives of National Curriculum were enforced more readily, as children would be given little opportunity to go 'off-task' and children would perform the suggested classification of plants throughout the forest school session. The National Curriculum for key stage one encourages the learning of more-than-humans (in this case plants) in a positivistic scientific way. The focus is upon the identification of plants and the classification of trees into deciduous and evergreen. During a forest school session, children worked in groups of no more than six, and they used classification sheets and an iPad plant identification app to identify different species of flowers on the school



field and then in the wood. Marcus [8, *WS, M, Wh.*] looked up into the trees and pointed to the blossom in the tree saying, "I didn't know that flowers grew on trees". He then picked it up and examined it more closely, the other children then tried to find it on the plant identification app, but this only had wild flowers on it and not tree blossom and therefore they could not identify it. They also had an identification sheet that did have blossom on it, but there was not a match so they chose the one that most looked like it. Marcus and his group did this to demonstrate to the forest school teacher that he had been on-task, working productively in the session. By focusing upon identification this potentially narrows children's encounter with more-than-humans as they learn how the animal or plant should be known, rather than appreciating how it is in their own way.

Another classification that was used across all of the outdoor learning sites was naturalness and many of children aged five and above had a clear idea about what was natural and unnatural. This may be due to "the principal focus of science teaching in key stage one is to enable pupils to experience and observe phenomena, looking more closely at the natural and humanly constructed world around them" (Department of Education, 6th May 2015). This divide between nature/human echoes Cartesian nature, as children at times rigidly applied this classification revealed by the following focus group dialogue:

Ryan [7, *WetS, M, Wh.*]: Natural things aren't made by man, yeah natural.

Ellen [7, *WetS, F, Wh.*]: It was...its made by nature because if its made by man its man made, yesterday I brought real flowers for my mum.

Callum [8, *WetS, M, Wh.*]: We should look after nature because it is something really special. It makes itself and its magic.

Luke [8, *WetS, M, Wh.*]: (*said sarcastically*) Nature made by nature (*giggling*).

Ellen: Seeds are made by nature and flowers are made by seeds so nature can make nature...so it can...

For individuals in this focus group, nature is not made by man and exists in separation, which is furthered by the view that it has magical properties, highlighting its difference. Yet, Ellen and Ryan also begin to unpick Cartesian nature that is presented by the formal programme, by that nature is defined by its ability to reproduce, which of course is true for humans. They are beginning to dissolve the rigid boundaries of Cartesian thinking, although not all of children are accepting in this potential reconfiguration of nature. Luke, through his sarcastic response suggests that he does not accept Ellen and Callum's thoughts about nature, but he does not go on to say anything else. Overall, this brief extract shows how, 'what nature is' is far from fixed for some children in the study and they are actively negotiating what it means.

Many of the adults that worked with children in the outdoor learning spaces had a very rigid idea of what nature was. Those phenomena that were decided to be unnatural were seen as not belonging and this opened up the potential to remove them, as the following fieldwork diary extract highlights:

A group of children were working with Lorraine [*FTA, WS, F, Wh.*], Tracey [*7, WS, F, Wh.*] says to her that it isn't natural (*she points at some orange peel that has been left on the ground*) and then Lorraine responds "looking for what does not belong in nature is an important skill". The orange peel is picked up and put in the bin. (*Fieldwork diary, Woodlands school, 03/03/2015*).

In the wood, orange peel is seen as out of place. It is unsettling, as it is something that has been brought to the wood by a child and discarded there (Douglas, 1966). Therefore, the orange peel is constructed as litter, allowing its removal, even though it is biodegradable and would have broken down over time becoming part of the soil. This event reveals that children and adults look for what does and does not belong in nature. Positivistic approaches to understanding the world are mobilised in forest school with the production of truths about nature as a simple concept, whereby the more-than-human world is stabilised and universalised across space (Hinchliffe, 2007). Children were taught what does and does not belong in the outdoor educators' vision of nature, the outdoor educators imbue children with what is acceptable behaviour in those spaces and perceived unnatural behaviours are discouraged. Thus, emerged categories of normality and abnormality in each of the programmes, whereby normal behaviour is defined by enjoyment of and experience of the more-than-human world in a caring way. For example, in forest school some behaviour was deemed to be uncaring and therefore inappropriate, such as playing football, being competitive and pretend fighting. Those children that do not conform to the moral discourses in forest school are seen as behaving in unnatural ways and that adult intervention is need to correct their behaviour by directing them to more forest school like activities.

#### *Experimentation on animal bodies*

Children were encouraged to know the bodies of animals in each outdoor learning space through the lens of science, although this happened in differing ways. In Garden and Meadows school, children were encouraged to make more informal observations that were not recorded. For example, in both spaces children were asked to look for mini-beasts,

fungi (in the wood), flowers, signs of other animals and the seasons as they played. These observations were generally made by children using their senses, with them watching, touching, picking up and resting mini-beasts (particularly worms) on the palm of their hand. Children in Garden school would often crouch down to observe the mini-beasts for a few minutes, with some jumping away when they came near them, whilst others used sticks to prod them with. Children particularly seemed to enjoy encountering ladybirds on the bushes in the garden, they would describe their colours, count their spots and how many of them there were. Thus, children at each outdoor learning site were encouraged to encounter worms, slugs, ladybirds, birds, ants, bugs, trees and plants and experiment on and with them.

Scientific ideas and ways of knowing the world flowed across all of the outdoor learning spaces resulting in the subjectification of the animals for study and the domination of them. Animal bodies were objectified, as in conservation (*see chapter 2 p.15*), and known through the processes of observation, counting, identification and classification that were present in the outdoor learning spaces. Also, in each of the sites there were particular areas that were designated for the identification and classification of the bodies of mini-beasts, as Lorraine from Woodlands school reveals in the following quote:

Lorraine [*FTA, WS, F, Wh.*]: The children love hunting for mini-beasts and we have made a screen with a frame around it and the children can lie underneath it and look up at the mini-beasts. They put the mini-beasts on top of the plexi-glass and they have races and they can do leaf art, which I think just gives them one more opportunity to look at what we are investigating that week, so if it is an invertebrate or worm, they can look at the worm from underneath and from above they can see which is the faster type of mini-beast and really see a lot more than what you just see in a bug pot.

The extract shows the plexi-glass was conceived by Lorraine as a site where children could test the scientific theories about the animals that they had learnt in the classroom. However, it was not only the mini-beasts that were tested, as children's knowledge and understanding of the world would be revealed, demonstrated and reinforced through the activities they undertook. The technologies used for observation were themselves sorted and ordered by adults, with the plexi-glass seen as the most effective way to watch mini-beasts from a range of angles. The plexi-glass was a large flat space that children often put leaves on to create a habitat before placing mini-beasts on to it. Children then had the opportunity to watch the mini-beasts as if they were in a panopticon, without touching them or making their presence known. This can be seen as an exercise in training children to become citizens that enable a disciplinary society to function, whereby they watch and report on the behaviour of others (Foucault, 1991). In essence, the monitoring of other bodies is normalised and this practice is extended beyond the forest school.

The bodies of some animals, such as worms, slugs and lady birds, were conceived as docile through outdoor learning, encouraging children to carry out a range of acts upon them. For example, at Meadows school children were encouraged to observe, touch and make homes for worms and slugs, which enabled them to experiment with animal bodies. Children created homes for worms and slugs that became laboratories where they could be observed, touched and examined. Worms were often the target of children's experiments, due to their bodies being easy to find and handle. Many of the children created worm laboratories by filling up disused pots and plastic containers with soil most chose transparent containers so that they could observe the worms, pull them out of the soil to show others or conduct examinations. The scrutiny of worm bodies would often involve lifting them out into a bug viewer, and they would closely inspect their bodies making

comments about the segments of the worms and comparing them to other bodies. For example, Mollie [8, MS, F, Wh.] when looking at a worm asked the forest school teacher whether worms have an abdomen and Paul [10, MS, M, Wh.] compared the different sizes of the worms by lining them up on the palm of his hand. Other experiments involved collecting similar and different species to see how they behaved together, identification, comparison and even in some cases the dissection of bodies.

Care can be seen as an affective logic used by conservationists to guide how people act in relation to particular animals and/or habitats, and it is hoped that they will spark a desire within individuals to change their behaviour and contribute to the conservation movement (Lorimer, 2015). Care was frequently mobilised by the outdoor educators across the sites of outdoor learning, as the hope was that as children learnt to care for insects and worms they would then go on to connect with them and become stewards for other more-than-humans. Yet, they the programmes failed to consider the differences between children and adults, particularly as affective strategies did not work in intended ways and some children responded in ways that were violent. The following fieldwork diary entry shows one such example:

Tim [7, MS, M, Wh.] and Ben [7, MS, M, Wh.] began to collect large sticks and planks placing them against the fence. They declared “We are making a bug house”. They then started to rake the leaves around the base camp, in an erratic motion moving the rake side to side. Then they started to use the rake as a hammer to make worms come to the surface. Tim picked a worm up placed it in the palm of his hand and then in the bug viewer. He looked at quickly and then dropped it onto the floor, and then continued to hammer the ground again, hitting the worms. Anna intervened and asked him to stop as he will hurt the worms. (*Fieldwork diary, Meadows school, 6/11/2014*)

This diary extract shows how discourses of care played an important role in this destructive event, as they set about creating a home for worms, but in order to do this they first needed to catch some worms. The worms were passive phenomena to Ben and Tim that were incapable and this gave them justification to intervene in their lives. The viewing of worms as passive and in need of care by humans enabled them to be subjugated, with at time acts of violence committed against them that were justified through children's desire to know more about them. The notion of animals as docile is reinforced through scientific knowledges that suggest that they can be objectified and subdued, and therefore can be controlled (Smith, 2008). The experimentation on the worms required objectification through measuring, counting and classifying; they were incorporated into classification frameworks. These processes de-individualised worms making it possible for children to see them as bodies to be experimented with. In other words, children detached themselves from the emotional affects of experimenting with worms and the potential harm they were causing. Therefore, the worms were transformed into an object that was to be used to further the child's knowledge of nature. Yet, the transformation of the worms into objects happened before children attended forest school through the internalisation of theories and knowledges that reinforce Cartesian duality (Haraway, 1991). Primary school science education encourages the dividing of phenomena into natural and human reinforcing popular conceptualisations of nature that separate more-than-human and human. For example, the National Curriculum (2015) for key stage one has a section dedicated to "humans and other animals" which suggests children should compare humans to animals and that they should learn how to care for them. This anthropocentric view constructs humans as superior over the more-than-human world and able to care, govern and dominate it, which was perpetuated through all of the outdoor learning programmes.

The worms and other animals that children encountered also became pets to some children, as well as being things to experiment on. Human-animal relations were multi-dimensional with forms of objectification occurring alongside emotional responses to animals. Lorimer (2015) suggests that it is difficult to personify an insect, as their bodies and behaviour are so different from ours, and they are not easily controlled or domesticated. However, this was not the case in the garden where children performed care-giving activities to the ladybirds, such as attempting to feed and house them, as well as showing affection by stroking. Children initially observed ladybirds; they would place them into their hands and claim them as their pet. The observing of the ladybird over a prolonged period enabled children to make a judgement about whether the ladybirds were safe and how they behaved so they could care for them. Ladybirds and other insects were considered as pets, due to their pacificity, children would often say "they don't bite", and therefore could be easily controlled and dominated. These encounters happened due to children having an aesthetic-affective openness towards their surroundings with an attentiveness to more-than-humans, which allows them to be surprised and grant agency to them (Harker, 2005). Yet, this openness is not extended to all mini-beasts, such as ants or spiders, which generated fears due to a perception that they were aggressive, and were regarded as wilder. Whereas, worms, ladybirds and slugs were able to transgress the nature/culture divide and be welcomed as part of the lives of children in outdoor learning spaces. Thus, the character of the human-animal relations in the outdoor learning spaces often took on an anthropomorphic dimension with more-than-humans being ascribed identities (Tipper, 2011; Malone, 2015). These identities reinforced children's sense of domination over animals.



### *Not so docile*

A range of more-than-humans had affects upon children's mobility by restricting and enabling specific movements in the outdoor learning spaces. Animals, sticks, trees, roots, burrows, holes, stinging nettles, weather, mud, tarpaulins, ropes and tools all had affects upon childrens movements in the outdoor learning spaces. In particular, the weather and its affects upon the landscape of the outdoor learning spaces often played a considerable role in the shaping of children's movements. For example, when it was dry and the paths were hard at Woodland's forest school children would move quickly along the path running, jumping, skipping and walking at a face pace. Therefore, the ways that more-than-humans were assembled had real affects upon children's movements (Änggård, 2015). There were moments in the outdoor learning spaces when the agency of children was challenged by more-than-humans, as they shaped children's thoughts about nature and their actions (*ibid.*). Although, as explored in the previous section, many of children constructed more-than-humans as passive and in need of care, this was at times challenged through their interactions with ants, stinging nettles, geese, swans and trees, some examples are highlighted through the following fieldwork diary extracts:

The children are walking towards the nature centre, and as they do a pair of Canada geese approach them flapping there wings the children jump backwards, and then they quickly walk around them. Elliot [9, *WetS, M, Wh.*] exclaims “Those birds are really scary”. (*Fieldwork diary, Wetlands school, 26/01/2015*).

Raj [11, *MS, M., As.*], Naomi [11, *MS, F, Wh.*], Zoe [11, *MS, F, Wh.*] and Ruby [11, *MS, F, Wh.*] are showing me around the school grounds as part of the walking interview. They walk through the long grass to the bug hotel and the start talking about it. Suddenly, Zoe

and Naomi run on to the school field and they start jumping around, Raj and Naomi follow, Zoe says “I’ve got ants crawling up my legs” and she slaps them off, Naomi replies “I am not going in there again” and we continue the interview from the school field. (*Fieldwork diary, Meadows school, 26/06/2015*)

Some children were afraid of the geese, due to their relatively large bodies, the sounds they made, the potential for them to peck and their apparent lack of fear of people as they approached the group. Ants through their numbers, close interactions with children's bodies and their potential to bite challenged the view that bodies are bounded and that people have dominion over nature (Deleuze and Guattari, 2000). Thus, children's encounters with them generated strong and visceral feelings of disgust and panic (Lorimer, 2015), as they attempted to remove them from their bodies and prevent future encounters by moving away from them. Therefore, the geese and ants were unpredictable and potentially threatening, challenging the idea of nature as passive and controllable.

Other animal bodies, those of mini-beasts, instead generated affects of disgust. For example, some children who could directly encounter animal bodies, such as worms and bugs, through touch would run away from them. Others would hold worms whilst squirming and/or use sticks to prod them with to avoid direct contact with their bodies. These examples can be seen as abjection, a reaction to parts of the world that threatens their sense of boundaries (Kristeva, 1982). The bodies of animals were not alone in challenging the human/more-than-human divide in the outdoor learning spaces, as there would be traces of animals presence, in the form of faeces, feathers, footprints and marks. Some children did not welcome traces of more-than-humans in outdoor learning spaces so they designed measures to discourage animals from entering. For example, Liz [7, MS, F,

*Wh.*] and Mollie [8, *MS, F, Wh.*] at forest school wrapped rope around the wood, they told me that they were creating a trap to stop animals "pooing and weeing" there. This example shows the loss of distinction between animal and human spaces, with animal capabilities seen as threatening. Liz and Mollie respond to this by subjectivising animals so that they can attempt to discipline them, with the aim to prevent them from doing unwanted bodily practices and therefore to become more human. This shows how animals in the forest school were discursively constituted and how children tried to govern them, but more-than-humans were not merely the passive objects of human management and their agency was involved in structuring children's behaviour.

Although more-than-humans did display agency and had the potential to shape the actions of those participating in the environmental education programmes, it is important that this is not over stated. There is a danger that co-production approaches to exploring nature assume that all phenomena are able to act upon each other equally. This effectively 'levels up' more-than-humans to the status of humans, whilst humans are 'levelled down' to the status of more-than-humans (Laurier and Philo, 1999). There were instances when more-than-humans did act upon children's bodies, but they responded through domination and potential destruction of them, as the following fieldwork diary shows:

In the garden, Abeo [4, *GS, M, bk.*] grabs the branch of a young tree he starts to pull it, but it pings back hurting his hand. He then pulls the tree again, but this time he is joined by two other boys who start to kick the tree until its trunk snaps. They push the tree fully over and then start using it as a hurdle to jump over (*Fieldwork diary, Woodlands school 14/07/2015*).

The tree does not respond to Abeo in the way he expected, it pings back hurting his hand. The tree has shown that it has capabilities to shape children's actions, but Abeo responds to this in an aggressive way and his friends reassert their authority by smashing the tree. This performance of aggressive masculinity is more broadly about Abeo showing his domination in the garden to other children, so that he can maintain his position as leading a group of six boys. This example shows the unbalanced power relations that exist between humans and more-than-humans, as the ability of more-than-humans to act is often diminished because humans have far more power to direct the course of culture-nature relations (Castree, 2002). The fieldwork diary entry shows that normally when people encounter more-than-humans they do so on unequal terms, although they can shape how a person acts, it is the person who ultimately can choose whether a species lives or dies.

### *Conclusion*

Overall, learning and knowing about the lives of more-than-human through science structured and shaped more-than-human-child encounters, and became a way of governing them. It closed down children's openness to the world, making them see it in terms of entities that can be neatly parcelled into categories through processes of experimentation. Adults in each of the outdoor learning programmes shaped the child as an adult in becoming, whereby the child is framed as incompetent and unable to discover the world without adults mediating it for them. The outdoor learning programmes have taken on and reinforced popularist Rousseauian ideals and have reaffirmed dominating relations between adults-children and people-nature. In essence, accepted truths about children and nature are fixed in and by these programmes, with nature reduced to something that can be known through science and as a tool used for the transformation of children into model citizens. Children have been universalised as in need of therapy and are seen as passive

phenomena that benefit from adult interventions. In other words, the outdoor learning programmes fail to reconfigure child-adult relations, as adults are seen as knowing what is best for the child. Scientific ways of knowing subjectified the bodies of animals and have encouraged children to carry out acts of experimentation upon them that are destructive. However, more-than-humans have shown that they do have capabilities that can shape mobilities of children in the outdoor learning spaces and how they act towards them. When children were open to the agency of more-than-human phenomena, then this led to potential co-production whereby children created new and differing knowledges from those that they had been taught.

## **Chapter 6: Learning in the garden, forest school and nature reserve**

This chapter will explore the epistemologies that emerged from the outdoor learning spaces and practices that took part in this study. Broadly, it is organised into two overarching ways of learning that emerged through ethnographic research across the outdoor learning spaces. It begins by examining structured forms of learning shaped by disciplinary power and then moves on to experiential styles. Other forms of learning, such as social learning, did exist within these sites and can be seen within some of the fieldwork diary extracts. However, in this chapter I focus upon learning shaped by disciplinary power and experiential styles, due to their prevalence across the garden, forest schools and nature reserve. It is important to emphasise that this is not a comparison between structured and experiential learning, as they did not exist in isolation and would often occur simultaneously.

Foucault's (1991) work surrounding governmentality and disciplinary power is used to analyse structured forms of learning. Governance and discipline will be understood as heterogeneous assemblages of techniques that aim to shape children, so that they learn to environmentally conscious citizens (*see literature review p. 68*). I will go on to explore the construction of environmental citizenship in the outdoor learning programmes, the way it is learnt, and finally how it is enacted, performed and resisted. The second way of learning explored is experiential and for this the work of Deleuze and Guattari (2000) will be drawn upon to examine how learning can exist without roots (*see discussion on experiential learning p.74*). During this chapter I outline opportunities to learn about the world in unstructured ways and to allow for more-than-humans to have multiple becomings. Overall, this chapter traces the connections and disconnections between these

two distinct modes of learning a more nuanced understanding of learning in the outdoor learning spaces is developed.

### *Learning to be an environmental citizen*

Across each of the outdoor learning spaces, attempts were made to transform the everyday practices of children through a form of environmental citizenship that was the dominant ideology (*see p.68*). Environmental citizenship involves a combination of claiming rights and the fulfilling duties and responsibilities towards the environment (Melo-Escrihuela, 2008). The outdoor educators or children did not explicitly use the term environmental citizenship, but from their interviews and practices in the outdoor learning spaces this was a theme that emerged. Outdoor education was seen as a way of raising awareness and transforming attitudes towards the environment, as Jane reveals:

Jane [TA, GS, F, Wh.]: ...they would also learn some rules about the wild garden because we don't seem to have any, and its caused a few issues, such as digging holes in the ground and pulling things off, just to look after our garden really, creating a bit of respect for wildlife is what I would really like so they understand that it is not just an area that you come in and just wreck.

Jane is constructing an environmental citizen as an individual who is willing to learn about the more-than-human world, developing a respect for and becoming responsible stewards of it. Jane makes a reference to 'wrecking' and order, which are used to frame children's actions when they are experimenting and learning in ways that are perceived to be damaging to their Cartesian vision of nature. Thus, there emerges an interesting contradiction between Jane's vision of more-than-human worlds, one that seems to limit touching and experimenting with, whilst attempting to connect children too more-than-

humans through encounters. Jane's quote also reveals that there is an embedded pedagogy of responsibility in the outdoor learning programmes which encourages children to be responsible for both themselves and human/more-than-human others (Martusewicz and Edmundson, 2004; Seyfang, 2005). For Jane becoming responsible is about children learning rules of practice when in the garden, which renders the child as a little savage who needs to be tamed to avoid damage to the environment. Jane highlights some interesting juxtapositions in conceptualisation environmental citizenship. On the one hand, according to Jane, children need to be embedded in and encounter more-than-humans, but at times these engagements can be construed as destructive (*see p.139 for more examples*). Thus, part of the rationalisation of developing the garden is that children need space to learn how to behave in ways deemed appropriate by adults and to show responsibility through their performances. Thus, the doing of gardening by children is seen in this context a way of facilitating the becoming of more moral and good citizens.

For Simon the way he constructed environmental citizenship was used as a standard to compare others against and you can see this in the moralising judgements he made about children and their families:

Simon: We might have that influence on them, I am not saying that we are better than what their parents are, but we will be a different influence that they will be exposed to, because you always think your behaviour is fine when everyone else is doing it around you and when some one does it differently it makes you think. It could be seen as OK, I don't really want to say that our values are better, but I do think they are better to be honest that's my view point. Yeah, a lot of people, both parents and children, it just opens their eyes really, that that log isn't just a log, its a habitat, and a pond isn't a pond to pollute, because there is a myriad of



creatures living there that you wouldn't think of, or know, because you have not experienced it.

Again, Simon is making strong and universalising judgements about children and their parents by suggesting that they lack awareness of and care for more-than-humans, and act towards them in ways that are harmful. Through this argument the environmental education programme is positioned as knowing and acting in better ways for more-than-humans and children (Gagen, 2007). Essentially Simon is constructing outdoor educators as role models for children and their families to assimilate. Simon believes that the way for children to become environmentally conscious is by removing them from the familiarity of their everyday lives through the weakening of relations between subjects and familiar spaces. This can be linked to broader Cartesian ideas that influence conservation discourses, whereby supposed natural spaces are imagined as pure and separate from society (Lorimer, 2015). Simon echoes such ideas, by suggesting that when children have direct experiences with more-than-humans they will come to know nature in its Cartesian form and go on to protect it.

Simon was not alone in making judgements about others, some children did as well. These judgements by children were particularly focused upon the actions of adults in relation to how they encountered more-than-humans, as revealed by Jax [9, *MS, M, Wh.*]:

Jax: As you can see Mr Smith and Mr Berry have decided to make a compost area for compost really and a lot of grass so this space will be useful for plants and the local environment to...We can't anymore because Mr Smith has done a shed so we can't come here any more. This used to be a place for children to come learn about nature, and to get things from the pond, but they would obviously put them back so that

they would not die and as you can see from here to here this used to be a flower patch, but now its been destroyed by weeds and sticky weed.

In the quote Jax considers how the actions of adults have impacted upon more-than-humans and children. Mr Smith and Mr Berry built a shed to store equipment for forest school without consulting children, and as Jax reveals the space where the shed has been built was one where they used to play. He also draws attention to the sites that he feels have not been cared for by adults as the flower beds became overran by weeds. Through this quote Jax recognises the contradictions that exist within the forest school, that it is a space where children are taught about care, yet adults do not always show care themselves. Forest school is presented as a space where people pay close attention to and consider more-than-humans, but Jax suggests that rather than acting on behalf of more-than-humans and children the adults involved in forest school were often acting to fulfil their own desires and interests. This example not only highlights some of the moral contradictions at the heart of forest school, but children are very perceptive and form their own opinions from observations and experiences. This can be seen as an example of co-production, whereby Jax has internalised discourses related to environmental citizenship and those have been challenged through his encounters with more-than-humans in forest school (Rautio, 2013a) (*see chapter 7 for more detailed discussions on co-production*).

Children across the ethnographic sites were interested in, cared and felt responsibility towards their local environment, challenging constructions of children as disconnected and apathetic about the world around them. Children did take on messages transmitted by the outdoor learning programmes about being responsible for and protecting more-than-

human life, echoing environmental citizenship (Martusewicz and Edmundson, 2004; Seyfang, 2005). During ethnographic observations and interviews children talked about and practised responsibility. For example, they would pick up litter, monitor the water they were using in the mud kitchen, care for animals and be responsible for their safety. The following quote from Tyler [8, *WS, M, Wh.*] highlights responsibility for himself and the environment, but also that he felt that others should feel the same as well:

Tyler: Occasionally this place would be really dry but that it only in the summer and in the summer people would make fires, but in the winter normally the fires would go out, but we need to bring a fire blanket up that is not flammable.

Tyler's quote shows how he demonstrates that he responsible and competent with fire through the consideration of the conditions of the woodland and the acknowledgement of the fire blanket. Shove and Pantzar's (2005) framework of how practices are assembled can be used to show the formation of Tyler's fire safety practice (*see below*). This assemblage has been formed through discourses of health and safety, previous learning (especially the rules of the fire square *see p.169*), other bodies, weather conditions, the materials used to light the fire, the fire square and surrounding environment. Thus, a number of phenomena are drawn into this specific assemblage to create Tyler's fire safety practice. Tyler's quote particularly highlights how he felt responsibility for the forest school, but he moralises beyond himself. For example, Tyler talks about people making fires in the summer and he is referring to events that occurred over May Day Bank Holiday weekend when a series of fires were lit in the wood. Trespassers ignited these fires and part of the fire square furniture had been damaged. Tyler, in his interview, appears to be disconcerted not by the damage itself, but by the apparent lack of responsibility shown by those who lit the fires. Thus, showing the strength of

responsibility as a discourse that shapes peoples thoughts and practices. Often in children's geographies there is a focus upon how adults place moral agendas on to children (Taylor, 2011; Wake, 2008), but this example also shows how children moralise the actions of others and seek to change their behaviour.

Children did become familiar with outdoor learning spaces and with more-than-humans through repetition of the same activities with them, and this was an important process in the performance and becoming of an environmentally conscious citizen. The walking interviews showed that the garden and woodland had become well known to the participants, as they were able to give a tour of them confidently with older children also giving descriptions of how the spaces had changed over time. Children would often revisit and repeat certain experiences; these could be from one week to the next or even from one year to the next. For example, Ollie [7, *MS, M, Wh.*] repeated an activity that he had done a year before in the initial sessions of forest school, which involved throwing a rope over the branch of a tree and then tying it to a bucket to hoist it up. Other children from week to week would repeat activities, such as den building, where they would often use the same basic design, but make slight alterations to it. The repetition of activities seems to be related to prior practice, the presence of certain phenomena (such as an abundance of sticks from the ruin of a previous den) and/or the spatial organisation (like the mud kitchen as an area for encountering mud). However, when the repetition of activities was related to prior practice that the outdoor educators prescribed this led to boredom. For example, at Woodlands forest school the year five children, made fires and cooked on them during five consecutive sessions, initially children enjoyed this activity, but after a while they complained that they kept on doing the same thing. Again, this example shows the unequal power relations within the forest school, with adults often not listening too

children and they instead direct them, as they sought to transform them into environmentally conscious citizens.

Children did take on the messages of environmental citizenship developing a sense of care towards the environment, which were performed through specific assemblages of phenomena. The following diary extract shows how taught environmental knowledges became entangled in with Leanne's [4, *GS*, *F*, *Wh.*] encounters with more-than-humans in the garden:

Children in the foundation unit in March had planted pumpkin seeds with the help of staff, as part of the growing topic they were learning about. Later on in the year, children asked what was growing on the trees and they were told that they were seeds. Leanne then said: "I am going to plant them and they will grow into trees". On the patch of ground where a flowerbed used to be she started to put the catkins into holes that had been dug by children collecting mud for the kitchen. A large group of children gathered around and asked what she was doing; Leanne said: "I am planting tree seeds". The other children then started digging more holes and putting the seeds in them before watering them.  
(*Fieldwork diary, Garden school, 03/06/2015*)

For Leanne, being in the garden created a specific assemblage consisting of stories, images, television, family members, soil, trees, catkins, trowels, watering cans, water and other children that shaped her desire to grow trees. This desire may have emerged from previous experiences of planting seeds where children were encouraged and rewarded by teachers. The planting of seeds can be seen as a moral act, one that connects to environmental citizenship, through potentially facilitating more-than-humans in the garden. Leanne, was placed in a space that differed from her usual experience, as she

revealed to me in her interview that she could not do gardening at home due to having a small hard surfaced garden. The experience of planting seeds was something that she wanted to repeat, it had changed her relationship with the garden from one where it was a space to play in, to one where she could practice what she had learnt in the classroom. The other children joined in displaying their willingness to be part of the performance of care towards the more-than-human showing the effectiveness of environmental values in shaping the thoughts and behaviours of younger children.

### *Learning to be a docile body*

This section draws upon the work of Foucault (1991) to explore how power flows through children's bodies when they are involved in education. In the outdoor learning spaces the body became the primary medium through which cultural norms, such as "time is short" and should not be wasted, were experienced (Jenks, 2005). Many of the bodily practices of the classroom are clearly replicated in the forest schools and nature reserve, with children sitting up straight, walking in lines and raising hands if they have questions to ask. In the garden, when a free flow session ended, an adult would shake some bells and children would stop what they were doing, put their hands in the air and then they would line up outside the classroom. These practices are designed to make children's bodies move efficiently through transitions, such as free flow to structured learning, and across spaces so that children can do more learning activities. Thus, children's bodies across all of the spaces were produced as docile and passive, moulded by disciplinary bodily practices.

In the outdoor learning spaces, particular technologies of the self were operating to various extents, such as getting to know who you are and being responsible for yourself. The self

in this analysis is considered to be a social construction, as a technique used to regulate the individual encouraging us to consider ourselves as the sole agent of our actions (Foucault, 1988). The regulation of the self was most apparent in the forest schools that took place in the study, and it was mobilised through health and safety discourses. Children at forest schools were encouraged to be responsible for their own safety, by being encouraged to identify hazards and to carry out specific practices. They school were acutely aware of hazards and throughout the ethnographic observations and walking interviews they would identify potential hazards, such as holes, fungi, branches and brambles. If they wanted to use a large stick of wood, they first checked it for fungi, and then they would drag it along the ground. Health and safety discourses also regulated their use of space and where certain activities could be carried out, as Kelly [9, *MS, F, Wh.*] and Mollie [8, *MS, F, Wh.*] told me:

Kelly: There's lots of trees and erm and one particular tree is where I build a swing with a yellow rope and there's a bit of grass we put under it so when people fall they don't get hurt or anything.

Mollie: We don't really go here because there are lots of stingers, but its not really scary. We can't go at the back of that fence because its really dangerous, if you tripped over what would you do then, so you can't go through that gate and we don't go behind the board against it could collapse on you. We don't swing on other trees as we might fall.

The particular tree that Kelly talks about was known as the climbing tree, it had a piece of Astroturf underneath and it was the only tree that children were allowed to climb (if an adult was supervising them). Kelly enacts docility through embodied vulnerability, with her and other children's bodies positioned as being potentially harmed if they do not

practice being safe and careful in the wood. Kelly assembles specific objects, such as the grass mat and rope, to show her competency and understanding of climbing/swinging on trees as risky. Again, as with Tyler [8, *WS, M, Wh.*] earlier in the section (*see p.152*), this example shows how materiality is entangled with practice within these settings (Shove and Pantzar, 2005). Also, Kelly and Mollie reveal that they allow themselves to be regulated, due to fear of being hurt, and this sentiment is echoed by a number of children at forest school. This fear of being harmed restricted the spaces that children, like Mollie, went into, as they would stay in the designated forest school areas.

Through a Foucauldian lens, like classrooms, outdoor learning spaces can be seen as disciplinary spaces where children's bodies are managed by techniques, so that they are moulded into fitter, healthier, efficient, moral, obedient and docile citizens (Ball, 2013). In the outdoor learning spaces disciplinary power was enrolled to transform children into environmentally conscious citizens, as discussed above (*p.148*). Disciplinary power flowed through the architecture of the spaces, through embodiment (such as uniforming the body), the reinforcement of adult-child relations and dividing practices. These disciplinary techniques trained the body into behaving in certain ways. This occurred through learning routines, regulations, rewards, punishments and appropriate ideas/behaviours of them, and these were visible across the outdoor learning spaces. In the garden, if children did something that was deemed to be particularly kind or helpful to others, they were given a smiley face that was displayed on a wall chart, and once they had ten, they were allowed to choose a small prize. The forest schools did not use an explicit system of rewards and punishments to discipline children. As observed in an ethnographic observation, when addressing children in the initial forest school session, Anna [*FST, MS, F, Wh.*] would tell children that "forest school is different from school, we don't compete



and we don't award house points for good behaviour". Appropriate ways of how to learn and be in forest school were transmitted across its members at Meadow's school. Good forest school activities were identified, as those where children were engaged with more-than-humans around them through observing, caring for and protecting them. If a child was doing a 'forest school-like activity' then an adult would often give them encouragement and guidance. Generally, other children would then join in and receive the same positive reinforcement, but if someone was doing a 'un-forest school-like-thing' then often it would be children that intervened to dissuade them (*see p.169 fire square as a technology section*).

Forest school was a space of busyness with children doing a number of activities in specific time scales. At Woodlands forest school children were kept busy. They would get dressed into waterproofs and wellies, carry items, walk back and forth to the woodland, fill up the water butt, sit around the fire square, doing potentially several predefined activities that ran simultaneously and finish by reflecting upon their experiences. There was little time for children to do nothing, and those that seemed to not be busy were often directed to do something. However, stillness and quiet are seen as an integral part to the therapeutic effect of nature upon children, as Anna reveals below:

Anna: It is (*the fire pit*) also really important as well because a lot of children, as you've seen, just like to sit and watch and its a nice peacefully area, that's not a lot that can go on in this area when there is a fire alight for safety reasons, I think it is just nice for children to sit, to think and reflect and they can learn about fire...this fire pit is a lovely little area and it brings everyone together collectively as well, as a little group.

Children's lives are seen to be increasingly busy with little time to be quiet and still, by just sitting, Anna sees this as having a calming effect upon them. Anna reveals how the fire itself becomes a tool that enables this therapeutic engagement to happen as it prevents children from moving around providing a sensory focal point that captured their attention. This builds upon the popular assumption that stillness/quiet is achieved in separation from daily lives and that children are not able to be still unless they are stimulated in some way (Conrad, 2007). Thus, one of the contradictions at the heart of forest school ethos is that children are freer and have the opportunity to be still, but in reality children are kept busy through continuous activity.

The keeping of children busy by doing activities can be seen through the lens of control, with subjectification operating ever more immanently through bodies (Deleuze, 1992).

Children appear to want to be busy, as shown in the quotes below:

Ruby [11, *MS, F, Wh.*]:...you learn just how to entertain yourself like how it is in the wildness instead of going on your computer or x-box; it gets you out of the house, and off things like facebook and twitter.

Tyler [8, *WS, M, Wh.*]: I want to keep fit and I run up a big muddy hill and forest schools is good at doing that because you do like activities.

Oliver [10, *MS, M, Wh.*]: We like coming to forest school because we like playing outdoors, if you play on the x-box all day you get bored. At forest school we like playing outside, in the rain as well.

Ruby, Tyler and Oliver all talk about activity and make judgements about what is purposeful or not. For example, playing on computer games and being inside are seen as activities that have few benefits compared with playing outdoors. They also perceive that

doing the same activity for a prolonged period is aimless and not using time productively citing boredom. Through this we can see how the personal desires appear to align with the aspirations of the forest school, but ultimately these desires are far from individual and instead emanated from the organisation (Watson, 2010). The dichotomy between indoors and outdoors is reinforced and a very simplistic characterisation of play as good or bad arises. Ruby, Tyler and Oliver all focus upon the perceived physical and mental health benefits of attending forest school and they all repeated the message that outdoor play is healthier than indoor play. Children have internalised broader discourses of health and they have become embodied through their practices at forest school. Therefore, forest school becomes a space where children can and are expected to perform healthiness and demonstrate that they are good environmental conscious citizens.

Time was often mobilised by adults as being valuable and not to be wasted. If children, whilst sitting around the fire square, were talking, fidgeting or did not appear to be listening, the forest schoolteacher would say "The longer it takes for me to talk to you, the less time you have in forest school to do fun stuff". Doing "fun stuff" became children's reward that if they obeyed adults then they would be able to do the perceived fun activities of forest school. Fun stuff in the forest school was often linked to playing with more-than-humans in the woods, as the interview extracts show these children did find the experiences that they had in forest school fun:

Tyler [8, *WS*, *M*, *Wh.*]: This can be a really fun place we never know what subject you are going to do.

Emma [8, *WS*, *F*, *Wh.*]: Its really good fun because we get buckets and we put leaves and sticks, and all little ants in and we love this.

Kelly [8, MS, F, Wh.]: We do lots of fun games with them and they get used to it and they think its fun and well...their learning and they have a bit of fun to go with it.

Tyler and Emma suggest that fun is amusing, enjoyable and entertaining, a short-term spontaneous feeling where you do not know what is going to happen next. For Emma, fun is linked with her playing with different more-than-humans in the forest school. Emma's view fits closely with research that explores how children play, which finds that play is often closely associated with fun, whereby as soon as an activity is no longer considered to be fun, it is no longer considered to be play (Glenn *et. al.*, 2013). Through this lens fun becomes an important function of play, and it is seen as being productive, an important part of child development regardless of whether a certain outcome is produced (*ibid.*). Interestingly, Kelly, who attends forest school with her mother (who is an adult helper), considers herself in an adult role, seeing fun as a form of production that trains the body to learn in certain ways and as vital to the process of learning. Therefore, fun can be viewed as a form of discipline as a way of shaping children's bodies.

The arrangement of outdoor learning spaces had strong disciplinary effects through the confinement and surveillance of bodies. Spatial boundaries consisted of physical features including fences, brambles, stinging nettles, dense woodland, paths and lakes at the nature reserve. These features are carefully constructed to control children's and other visitor's use of space. A dominant feature of the nature reserve and forest schools were pathways, which lead users in specific directions; they both constrained and provided opportunities for children. The paths of the nature reserve are restricted in places as they are built through a series of lakes, and in parts large bramble bushes prevent people wandering off. For children this constrained geography worked on their bodies as they walked in lines

along the path without being asked to, at times marching, but rarely straying from the ordering of a line. These lines of children's bodies can be seen as geometric lines, as the connection between two points and as they move they connect children to different spaces along a designated route (Ingold, 2012). This ordering by the path did not just limit where people can go, but also highlights points of interest, as the path meanders along the lake it encourages visitors to observe and encounter plants, trees, birds, ducks, dragonflies and other animals on their journey. As such the path can be seen as a technology that encourages users to encounter certain more-than-humans in specific ways. For example, along the path there are specific sites from where users are encouraged to observe birds and information boards are placed along the route to draw attention to certain plants and animals. Therefore, the path can be seen as being purposeful, as a way of developing environmental citizenship through individuals having specific encounters with more-than-humans so that they go on to care for them.

To reinforce boundaries, techniques were applied to teach children where they could or could not go. Adults would walk in front of and behind children, making it difficult for them to explore the nature reserve more freely, although one group of year two children did run off and ahead of the group leader, who proceeds to chase after them. In forest school, children held a piece of rope in a line as they were led around the wood with key features (such as specific trees) identified marking the boundary. The effectiveness of this technique was clear in the interviews, with a considerable number of children at both forest schools talking about boundaries, as the following quotes below show:

Sara [7, *WS*, *F*, *Wh.*]: We are not allowed here. Its out of bounds.

Kerry [10, *MS, F, Wh.*]: Sometimes you are not allowed past the blue house unless you have an adult with you and not past the composting.

Melanie [9, *MS, F, Me.*]: Well, normally I wouldn't go to the pond well if there was some place that you could I would go there some of the times, but not most of them as there are loadsa thorns and things so you have to really keep out of there, and that's really something they have to be really clear on, and well sometimes your allowed in there and sometimes your not so. You see there are things [*balance beams*] that you can play on and in forest school you're not allowed to play on them, but in reception you are. That is the restricted area you are not allowed to go past the blue house. The blue house the statues and the pond is where you are not allowed to go so we just stay at this end.

Sara, Kerry and Melanie have internalised the boundaries of forest school and they have a clear sense of where they are allowed and where they are or not supposed to go. This prevents them from exploring some spaces and this reinforced dominant adult-child relations. Melanie has internalised risk discourses explicitly preventing her from going into the pond area, as it is deemed to be too dangerous even though she is curious and interested in that area. Yet, Melanie suggests rather than spatial boundaries being static that they are fluid, and expand and contract depending on the age of the child and whether an adult is present. As Melanie points out, as children get older, some of the play equipment in the school is no longer deemed to be age appropriate, and therefore they are not allowed to use it, showing how forest school does little to challenge age structuring.

One way that docility was produced at Woodlands school was through the uniforming of the body, as children taking part in forest school were required to wear age standardised waterproof trousers and jackets. The wearing of standardised clothing is a way of de-

individualising, promoting conformity in populations (Foucault, 1991). However, the disciplining of the body through the wearing of waterproofs was not always effective. One group of children aged eight to ten, resisted wearing the waterproofs, and eventually they were allowed to wear their own clothing. Forest school educators see clothing as integral to becoming immersed in the 'natural' environment in all weathers (Knight, 2011). The waterproofs were part of an assemblage of things that were considered necessary for the forest school to achieve their goal to connect children to nature. They in essence became actants, objects that facilitate and constitute the practices of forest school (Urry, 2000). The waterproofs are seen to enable children to explore and take part in activities that involve them encountering mud and water. When wearing the waterproofs children's bodies were easier to surveil as they rustled when they moved and their bold green or red colour made it easier for them to be identified in the woodland. Thus, the waterproof clothing combines with the body, forming hybridity whereby bodies were fused with materials. This combining of bodies and brightly coloured waterproofs formed a disciplinary technique that encouraged children into behaving in ways that support forest school values. Yet, the waterproofs also protected children from brambles and stinging nettles, allowing them to wander off paths and into the woodland undergrowth defying the boundaries of forest school.

### *Learning to move*

Movement played an important role in regulating the body and controlling the actions of children. Children in the outdoor learning spaces moved in a range of ways, by running, hopping, skipping and jumping. However, restrictions were placed on children's movement by the physical environment, in the form of dense woodland, bushes, sting nettles and brambles. The spaces of forest school and nature reserve were less open than

the garden with features (such as mature trees) constraining the movements of children, as it was more difficult to run through them. Children in the garden moved in a wider range of ways, when compared with the other outdoor learning spaces, revealing how age and mobility are intertwined in the co-production of movement. Younger children are seen to learn through the movement of and experimentation with their bodies. In early years settings it is seen as necessary to provide children with spaces where they can move in numerous ways, without being overtly restricted (Olsson, 2009). The age-structuring of movement is highly significant as it affected the ways that children of different ages were able to experience space. Rigid understandings of childhood based upon developmental theories feed into adult practices. When children attempted to find new ways of moving through these spaces they were often prevented from doing so by adults. For example, when children attempted to climb trees or swing from them, there were often interventions from adults to prevent them from doing so. Children's movements became restricted by adult agendas with attempts made to control their bodies and this was usually achieved by encouraging walking.

Walking has been constructed as romantic, reflective and natural (Cresswell and Merriman, 2011), and these adult constructions were visible in the forest schools and nature reserve. Walking was the way favoured by adults for children to explore spaces. For example, in one session when a group of boys had been running around the wood the teacher called them back to the fire square telling them that it is dangerous to run and that they need to slow down so they can experience nature. Discourses of risk were often mobilised, if children walked it was perceived that they were less likely to trip or fall and potentially hurt themselves. From my observations across all of the sites, very occasionally children did slip or trip regardless of whether they were walking or running,



but mostly they would just get up and continue without making much fuss. The most serious injury seen during the fieldwork was a nosebleed caused from tripping when walking in the wood. Overall, movement in the forest schools and the nature reserve was often restricted and used as a form of control, but when children did defy the restrictions when doing so they did not seem to put themselves at any greater risk of injury.

Walking is seen as a lived practice that leaves distinct impressions upon the individual and as being reflexive of social norms (Edensor, 2000). Walking was an embodied movement, it shaped the body and gave it meaning, as children encountered phenomena. In the forest schools and nature reserve walking was seen as a way to allow children to sense and experience their surrounding environment in a particular way. By slowing down their movements, children were perceived to register more of their surroundings and interact more closely with more-than-humans, and therefore develop a closer connection with 'nature'. However, if children restricted their movement to walking alone they would have a reduced experience, as when they vary their speed by running quickly through the woodland they learn how to adapt their bodies to the changing topography and vegetation. Children did negotiate the spaces through a range of movements and the walking interviews encompassed a range of movements, running, jumping, skipping, hopping, ducking, stretching and being still. Thus, the walking interviews gave an insight into how the body senses and negotiates the world around it. For example, in *Mollie's* [8, MS, F, Wh.] walking interview she takes me to an area that she designates as the nature corner. She begins by walking around it and then kicks the leaves that have built up against the fence clearing them so that she can potentially see mini-beasts. By using her feet to explore the nature corner the body senses it differently than if she was to use her hands, she avoids the leaves touching her skin; the leaves are slightly damp and beginning to rot.

Mollie said to me "There's mini-beasts and stuff here", but by using her feet she is able to keep her distance from them to avoid touching their bodies and the leaves that are slimy and sticky. Through this encounter, Mollie's body reveals how the rotting leaves disgust her and she creates a boundary between herself and the leaves by exploring the nature area by using her feet. When we move in a range of ways our senses perceive the world differently enabling a broader knowledge of the world to be created (Thrift, 2003).

Movement has meaning that is then mobilised by power relations that shape our experiences as we move through spaces (Cresswell, 2006), specifically gender structured actions and this became particularly apparent in Paul's [*10, MS, M, Wh.*] and Oliver's [*10, MS, M, Wh.*] interview. Oliver and Paul led me through the back of the wood through some overgrown grass. At first they were walking, but when they entered the trees they began to run, entering a den that the girls were building. The girls shouted at them "Oh no! Trespassers" and the boys ran quickly towards the base camp. This event reveals how children constructed territories that were usually defined by gender, with the boys and girls creating separate spaces. The boys knew that the girls would not welcome them within their territory so they changed their movements from walking to running challenging the boundaries that the girls had created. These boundaries shaped Paul and Oliver's movement with (im)mobile territories across the wood generating specific embodied movements. This was not an isolated case of territory building by children, as across all age groups both boys and girls built them with the aim of excluding others. Territories were not necessarily fixed and they to have mobility, as they reformed over time through new imagineerings and the forming of different relations. For example, in the initial forest school session at Meadows School, for children in year six (children aged ten to eleven), the girls and boys segregated themselves and set about clearly defining their

territories. If girls/boys entered into each other's territories they would chase each other away. By the next session, it began like the first, but once the boys had finished their den, they then came to see what the girls had done and started to work together to help them finish. In the third session the girls had re-imagined what they were doing in forest school, and they went to make perfumes, whilst the boys occupied the space where their old den was. Children took on gendered roles emphasising that movements are not shaped in isolation, but are a political practice produced through relations with others and wider societal forms and structures (Cresswell, 2006).

Although, as explored above, adults bound children's mobilities they still collectively explored and ordered the spaces on their own terms. Walking and moving was central to the experiences of most children taking part in outdoor learning programmes, and it was constitutive in social and cultural geographies (Horton *et. al.*, 2013). Many children moved through the spaces repeatedly, building up a detailed knowledge of them. Over time, some children would use this knowledge of space to subvert the order and structure of the formal programmes. For example, children dug and built dens in areas that were considered unsuitable by adults for such activities, and they would also find places that they could not easily be surveilled in. In the garden, children would go behind bushes, clearing a path and a space within where they hid objects, such as items from the mud kitchen. Once they had become familiar with the space, children playing with the mud kitchen moved it to other parts of the garden and into the bushes where they could not be surveilled so easily. Children would regularly move the pots, pans and cooking utensils around the garden leaving them hidden in bushes at the end of each free flow session. This example shows that children produced knowledge of the garden through repeated

encounters and experiences of it. The knowledge of the garden then became power, which children were able to use to attempt to avoid surveillance and disorder the space.

### *Being disciplined in the fire square*

One technology used in the forest school to discipline bodies, so that they conformed to appropriate behaviour, was the fire square (figure 10).

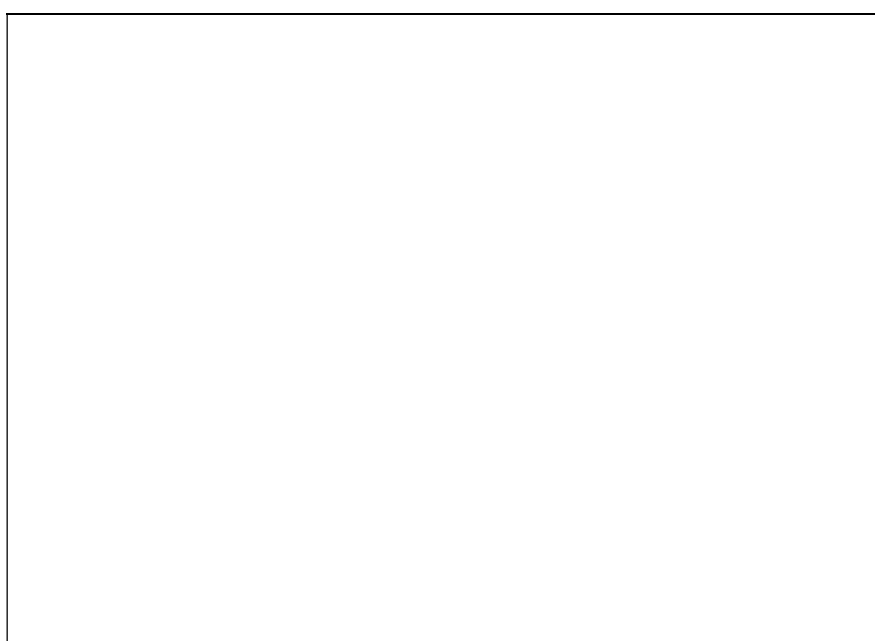


Figure 10: Fire square at Woodlands School.

Children and adults sat around the fire square at the beginning, occasionally during and sometimes at the end of forest school. The design of the fire square means that each individual could see everyone else sitting around it and therefore multiple eyes were monitoring each child. Children sat on logs forcing the body to sit upright in order to balance, those bodies that are not sitting 'properly' were often told to do so by adults. Children were trained to walk around the fire square in a particular way and if they walked through it then the other children will call 'fire, fire', whether the fire was lit or not. Children and adults monitored boundaries, if a child went out of bounds in terms of their

bodily movements or spatially others would often inform them that they were breaking the rules and they would then threaten to tell an adult.

The fire square is a space where children are trained to encounter non-humans in a way that is considered to be safe, through their bodies learning to respond to disciplinary power. Discourses of risk were mobilised; adults present the non-human world as risky to children if they fail to follow the rules and boundaries in place. Children generally accepted the logic of non-humans, particularly fire, as being risky and as having the potential to cause them harm if they failed to obey the boundaries of the disciplinary system. Carmela [5, *MS, F, Wh.*] and Aimee [5, *MS, F, Wh.*], during their interview show how they conceived the fire as being very dangerous if they failed to follow the rules of the fire square:

Carmela: If you cross into the fire your hand will burn all day.

Aimee: You will need to go to hospital.

Carmela: An adult has to do the fire for you.

Aimee: Like Miss she did that.

Carmela and Aimee, like many of the other children, saw the rules within the fire square as positive, allowing them to engage with fire in a way that was seen to be controlled and safe by children and adults alike. Discipline itself was not generally problematic, as it was essential in allowing children to engage with different non-humans safely and children often perceived it in a positive way (Stiegler, 2010). However, discipline was often overbearing and operated in ways that maintained adult dominance over children and non-humans. In the fire square, adults became mediators between children and fire providing a bridge between them and dominating both. Adults are presented and accepted as being in control, which fails to acknowledge the capabilities of children and non-humans, when

there were times that children and non-humans had strong capabilities, disrupting outdoor educators performances (*see p.195 for a discussion of the capabilities fire and its affects*).

Most children did little to resist boundaries in the fire square and often they enforced them through embracing the panoptic technology. The monitoring and assessing of others by children plays a crucial role in the governance of the forest school, as it means that children do not have to be under constant adult supervision for the rules to be upheld. Once children began to do activities outside of the fire square, it took on another role as disciplinary space in waiting. Children that did un-forest school like things, such as running around or playing football, would be called back to the fire square and asked to sit. Children would listen to adults giving them warnings and telling them how they should behave in forest school by "connecting with their surroundings and paying attention to nature". Once it was felt that control over children had been restored they would then be allowed to leave the fire square. After this event they would often be subdued and behave in ways that were compliant. Therefore, the fire square works as a disciplinary technology that attempts to control the movements of bodies and it regulates children's behaviour so that they act in forest school-like ways. Overall, discipline at times was overbearing preventing children from developing more open relations with more-than-humans.

#### *Bodies that do not conform*

Disciplinary power was not totalising and was not always successful in its containment of childrens bodies as the following diary extract shows:

It was the first session for the year 6 children and they were very excited about forest school. They had just finished their SATs.

Children ran around everywhere, they were initially sent to do a hazard assessment and they were told not to run, but they sprinted around the woodland. They were continuously told not to run in forest school as its too dangerous to run, but they ignored what was instructed and continued to do so. (*Fieldwork diary, Meadows school, 04/06/2015*)

Again, we can see risk discourses have been used to encourage children to behave in certain ways, but this time it was unsuccessful as they were defiant. Children were not harmed or injured during this event, reinforcing the idea that risk discourses are about controlling bodies. Running in the wood or at the nature reserve did not comply with what was conceived to be appropriate and normal, and through Foucault's work this can be seen as an act of resistance to the body being disciplined by walking. Foucault (1991) maintained that the ability to resist is not a goal of action and is instead a precondition for and response to ongoing power relations with the ability to resist not lying in the individual, but within relations with others. In terms of resisting through movement children would do this collectively, in the garden they would balance on the raised flowerbeds, going around two at a time, whilst helping each other to balance. At forest schools, not all children followed the paths and some would deliberately go off them, whilst in the nature reserve when an adult was talking to children they would sometimes collectively kick the gravel beneath their feet. Thus, multiple power relations existed in the outdoor learning spaces, at times they were dominating, but they also could be looser involving less adult and child surveillance, reporting and directed activity.

Not all bodies conformed to discipline in forest school, in particular those children who had been identified as being autistic or as having global learning difficulties. The bodily movements of these children would often set them apart from the rest of the children and

they were not disciplined in the same way. For example, Tara [10, *WS, F, Wh.*] entered the fire square and walked through it, even though a fire was lit, but was stopped by the teacher. When she sat back down she crouched on the bench and rocked herself back and forth, until she got up and walked into the forest, whilst the other children were still sat around the fire square. A teaching assistant observed her from a distance, but at no point did any of the adults or children directly intervene. In essence she became invisible as the forest school session continued around her and children went on to collect firewood. However, when building and lighting fires Tara did rejoin them and she participated. In effect Tara's body was separated from the other children by dividing practices that draw upon ideas of so-called normal children development to identify, categorise and define subjects. Through these practices children's bodies were sorted into Special Education Needs/normal child (Foucault, 1991). Therefore, through difference some bodies were positioned outside of the disciplinary system that operated and therefore were freer way than others, as they were not bounded by activities or routine.

At forest school, disciplinary power had not always been effective with younger children not conforming to rituals and expected practices. The forest school teacher explained to me that children in the reception class usually go into the woodland on a weekly basis to do 'muddy play'. These sessions were taken by non-forest school teachers and children taking part in them had only been to forest school on one-off visits throughout the year. Therefore, younger children were unfamiliar with the routines of forest school and the power of technologies, such as the fire square, were weaker. This was evident from children's behaviour when they were sat around the fire square, as they would move around changing seats and talk to each other during instruction. Although, other groups of children may have been very excited before getting to the fire square, once they were there



they were quiet and generally very obedient of the fire square rules. The reception children did not monitor each other in the same way around the fire square, and they did not question the behaviour of others when rules were broken, but they did do this when other children went out of bounds. This highlights that disciplinary power can take some time to work on the body and needs repetitions to become fully effective, as the reception children had only partially internalised the rules and practices of forest school and their bodies were not fully compliant.

### *Is discipline necessary?*

So far this chapter has analysed the presence of discipline in the outdoor learning programmes through a Foucauldian lens, can be used to presume that disciplinary power generally has negative effects. Stiegler (2010) suggests that we have entered into a post-disciplinary society, whereby care towards others has been broken down and lost, and discipline is necessary for care to function. In the forest schools, when discipline was absent, it allowed some groups of children to repress others, with domination and actual/threatened violence, at times, becoming the strongest relations between them. The following fieldwork diary entry highlights one instance of oppressive relations:

Poppy [7, MS, F, Wh.], Liz [7, MS, F, Wh.] and Sarah [7, MS, F, Wh.] were continuing to build their den, and as they did they pretended that they were a family. They included me in their play and started to show me around, when Ollie [7, MS, M, Wh.] and Tom [7, MS, M, Wh.] shouted at us: “You’re in our area”. Then Ollie picked up a ‘gun’ formed from two large wooden poles that had been nailed together and he started to shoot at us. Ollie then ran to attack the girls’ den, pulling at the tarpaulin and Tom grabbed a large stick and he said: “Look we can hit them on the head with this”. The girls responded by running away

and screaming. They then fetched some red plastic poles and started chasing the boys with them. At this point Anna intervened, telling children off, “When we are in forest school we do not wave equipment in the air, we drag it, and you all need to calm down”. Children then returned to their dens (*Fieldwork diary, Meadows School, 27/11/2015*).

The event described in the fieldwork diary was not an isolated one and similar events occurred within both Garden and Woodlands school. These violent events, like the one above, were often a product of conflictual relations between girls and boys, with groups of boys trying to dominate girls by trying to colonise territory. This is a striking performance of gender enacted by drawing upon binary logics of masculine and feminine expected behaviours (Butler, 1997). The girls perform care through their homemaking showing carefulness and respect for the other, which is juxtaposed by the boys displaying the traits of competitiveness, power and violence. Ben and Tim were able to enact this violent performance, due to a momentary break down in the disciplinary system in forest school. This weakening in discipline occurred due to adults and other children not surveilling closely at this moment and Poppy, Liz and Sarah rather than reporting the event, choosing to take matters into their own hands. Once Anna steps in, and discipline is returned, Poppy, Liz and Sarah continue homemaking and Ben and Tim continue to build their den. In this event the dissolving of discipline was connected to a violent event, but there were also opportunities created when discipline was weaker for children to encounter and experiment with more-than-humans in more open ways (*see p.177*).

Although, there were some negative aspects of disciplinary power it was an essential element of the outdoor learning programmes. It enabled children to engage with the world in a different ways in contrast to their daily lives and to develop a politics of care, as Melanie outlines in the quote below:

Melanie [9, MS, F, Me.]: Forest school is a really good thing and it is kind of nice to have a chance as an after school club to be able explore the wild, to explore the wildlife of forests and be able to make dens and play fun games. Really what I am trying to say is that more forest schools should be created so that it would be fair and soon outdoor living would become popular and so more people would take care of the outdoors and nature, and they could build a society about nature and build like this garden which has glass walls all the way around the garden and it had plants growing inside of it and people come there every single day to feed the flowers and water and the sunlight hits it and they have everything and they grow fruits and this would be called the society market place.

For Melanie, forest school gives her an opportunity to do things that she does not normally get an opportunity to do in her everyday life, and she enjoys its difference. Yet, through her quote forest school becomes more than just the doing of different activities, it also gives her a space where she can develop political ideas and test social relations. This is seen in the development of her idea of a society market place that appears to follow a similar model to an allotment, but on a larger scale. Thus, the disciplinary system in the forest school, for Melanie, provides a human-to-human rather than a more-than-social politics of care. There is little evidence of a more-than-social politics of care that is de-centred from the human and is open to more-than-human co-production. Through a human-to-human politics of care the individual is nurtured, develops collective responsibility and critical engagement with the world rather than a narrow focus upon the self (Stiegler, 2010). This encourages a shift from perceiving the individual as docile to a complex consumer and producer of knowledges who, like Melanie, takes on dominant ideas surrounding nature, but then shapes them into her own political opinions (*ibid.*). It is important to emphasise that discipline did have differing affects upon children. As explored in the previous section some children did become docile bodies and took on the

dominant ideas surrounding nature in uncritical ways without developing them further. Therefore, a more nuanced understanding of discipline in outdoor learning spaces is required, whereby it is understood as having numerous possibilities, with the potential to be liberating and repressive.

### *Experiential learning*

Within the outdoor learning programmes there were opportunities for other ways of learning, which children unconsciously exploited and developed. At times experiential learning was present in the garden and forest schools with children directing their own play. This learning was outside of social norms and structures, so it was without roots, with children open to interrelationships that may not be conventionally linked (Deleuze and Guattari, 2000). Relations with diverse phenomena are able to fold/unfold, due to free movement across space, ideas and concepts creating a range of knowledges that are transforming continuously. Therefore, relations changed from knowing about to knowing with the world (Rautio, 2013a). One implication of experiential learning is that human and more-than-humans become less clearly differentiated and it becomes more difficult to pull them apart, thus challenging the Cartesian divide- nature/culture. Instead, through these encounters, an assemblage of differing phenomena are pulled together for moments, forming a particular nature. For example, the natures assembled by Leanne [4, *GS*, *F*, *Wh.*] in the garden depended upon phenomena that she encountered through play and/or observations. Sometimes nature for Leanne was something to physically transform, such as turning soil, water, stones and grass into mud pies, other times it was to re-imagine the more-than-human with human-like characteristics as it became part of an extended family. Through experiential play, Leanne was able to assemble a range of different natures rather than being told what nature is. Therefore, she came to know it more loosely than others

who took part in more structure activities, as the following extracts from interviews with children who went to the nature reserve show:

Ellen [7, *WetS*, *F*, *Wh.*]: (*very excited*) Oh, nature is little like bugs and that and if you step on them it will be bad for nature.

Luke [8, *WetS*, *M*, *Wh.*]: Wildlife...Err...like little frogs, and plants and flowers.

Jackson [8, *WetS*, *M*, *Wh.*]: Its like you don't have to kill little things like worms, snails and slugs.

For these older children nature was something that was small, passive and in need of protection. They had taken on the dominant message in the outdoor learning programme rather than forming their own ideas about what nature is or could be. Therefore, experiential rather than more structured learning encourages openness towards nature enabling the co-production of knowledge to occur between child and more-than-human.

One way that children would learn in the outdoor learning spaces is through their bodies by touching, tasting, looking and hearing, and over time the child's body becomes familiar with that particular space (Ingold, 2011). For example, the younger children in both the garden and forest schools would dig the soil through their hands, sometimes smelling it. They would then run it through their fingers or pat it together repeatedly, observing what happened to it. Children of all ages would put worms, slugs, bugs and ants on to their hands to feel them as they travelled over them and to observe them more closely, as the following diary entry shows:

In the garden Peter [4, GS, M, Wh.] was alone and he was rolling back the logs, looking at the worms and other insects beneath them. He picked up the worms, one by one and placed them on his hand. He then picked up a long worm and he started to giggle as it tickled him. He then showed it to me and he then asked me “How do worms dig through the soil when they have no arms?” (*Fieldwork diary, Garden school, 03/06/2015*)

Through Peter's encounter with the worms he starts to create knowledges about the worms, about their sizes, bodies and movement, and begins to form questions about the worms and how they live. His knowledge is not fixed by a book or identification sheet, but it changes as he interacts with the worms, and therefore through this event Peter comes to know with the worms. This event is in contrast to transmission based learning, where children would be told how certain animals behave, and they would come to know about them.

Children often seemed to have an aesthetic-affective openness towards their surroundings that is an attentiveness to more-than-humans, which allows them to be surprised and grant agency to them (Harker, 2005). When children encounter animals they are lively, and affect children in complex ways including surprise, delight, terror and excitement. For children their encounters with animals are not just about seeing them, but getting to know with them, as the following diary entry shows:

Children look out over the lakes intently, as they stand on a jetty. A mute swan comes up to the jetty Karen [9, WetS, F, Wh.] becomes excited calling out its a swan and then she starts giggling as it dives down “Look at its bum, its dirty” (juvenile swan still has some brown feathers). Karen continued to watch the swan, before telling a teacher what she had seen (*Fieldwork diary, Wetlands School, 26/01/2015*).

Ebele [11, WS, F, Bk.] was building a den with the other girls; she went to fetch some more equipment, when she returned she noticed two cardinal beetles on a tree trunk. The beetles were mating and she watched them before calling over the other children and adults “Look what I’ve found” she proclaimed. All of them gathered around the tree and they watched the beetles intently without saying anything. They then return to the den building and start talking about the cardinal beetles (*Fieldwork diary, Woodlands School, 11/06/2015*).

For Karen, the encounter with the swan involves her observing the animal for a considerable time, and she is delighted that the swan appears to be different from the representations that the children had been taught earlier in the day. Ebele's unintentional discovery of the cardinal beetles stimulated an event with children gathering to observe and discuss them in a process of knowledge creation. Both the events show that when children did not have activities imposed upon them, they would often observe and encounter animals. When children were involved in experiential learning, rather than more structured and directed forms of learning, they would be more inquisitive and questioning of the world around them. Karen and Ebele learnt by allowing themselves to be affected and open to the behaviours/differences that they saw, and enabling animals to become a co-producers of knowledge (Hinchliffe, 2007).

More-than-humans were nearly always involved with children's knowing with the world, they were not placed in isolation, but were intertwined with their experiences. Bodies' human/more-than-human became entangled forming cyborg bodies (Haraway's, 1991) and one way this happened was through actions entering into thoughts rather thinking and doing an action (Ingold, 2011). During the research, children would frequently pick up sticks instinctively without seemingly realising what they were doing. When asked, "Why

did you pick the stick up?" the common response was "I don't really know". This is an example of an autotelic practice that has no external reward or motivation, but is enjoyed and sustains itself (Rautio, 2013a). Children were drawn to particular sticks because of their aesthetic and/or tactile qualities. For instance, at times children were often drawn to sticks that were rigid and relatively thick, which they would then use to scrape the ground, with making small holes. In this case the stick became a tool, in other cases the stick would take on symbolic meaning, such as becoming a gun, a net or a wand, due to its shape being reminiscent of those particular objects (Änggård, 2016). However, sticks were more than purely symbolic, children would often go on to use them in some way to encounter the surrounding environment by probing the ground, raising it to the sky or tapping trees. The stick gave children a different understanding of the world available to them if they were just using their senses alone. By probing the ground they could see how soft/hard it was and by hitting different trees they create a range of different sounds. Thus, experiential learning occurs through traversing encounters that happen between children and more-than-humans involving a range of senses, as the following fieldwork diary entry illustrates:

In the garden Isaac [4, *GS, M, Me.*] declared we are going to make a machine, children went and fetched plastic stools and chairs from the playground, followed by tyres that were in the mud kitchen, logs and then stones. They placed the chairs together, and lent the tyres against them, but as the other children went to fetch more materials Alexi [4, *GS, F, Wh.*] started climbing in the chairs and knocked them over, "oops" she proclaimed and then she ran off to join the other children. Once children had finished collecting materials they started to climb over it and the flowerbed became an extension of it, as the moved from the flowerbed rim to a tractor tyre that had been planted. The tractor tyre then became a jumping platform from which children jumped into



the unplanted flowerbed and then they started to dig through the soil with their hands. Isaac found a stone and Alexi a plant, which she smelt, that they both came to show me as they said “We have found treasure”. Isaac then began to throw the stone at the ground at different heights, against different materials and he looked at where it had fallen closely (*Fieldwork diary, Garden School, 20/05/2015*).

Children initiated the creation of the machine, it was spontaneous and unexpected, and as the event unfolded they were learning about each other and the world in a number of ways. For instance, they had to work out how to move the tyres and the logs by rolling them, how to climb on the machine without it collapsing, how to balance on the flower bed by helping each other, the texture of soil and the sound of stone hitting different materials. This particular moment of experiential learning involved children bringing together a number of different objects and shows the importance of materiality during the process. Therefore, knowledge production takes place in a dense web of interaction among learners, objects, representations, animals, habits and activity (Haraway, 1997).

Experiential learning only occurred when adults or other children did not closely monitor activity and intervene in children's actions. Often structured activities would take precedence or adults would intervene when they perceived children to be at risk and/or doing inappropriate things. In the garden, when adults did become involved with children during their experiential play, this often involved observations and questions related to assessing them in terms of their development according to the early years curriculum. Children's encounters with more-than-humans through experiential play became an end in themselves, as a method that allows 'normal' child development on their journey to becoming an adult. Learning experientially should happen in the current space and time, it is not about preparing children to become future adults, and instead the focus is upon the

here and now (Deleuze and Guattari, 2000). Children need to be conceptualised as whole beings and not just waiting to become adult (Aitken, 2001). Experimental learning was approached teleologically, whereby it was seen as serving an exercise in self-transformation with the distinct purpose related to socialisation and development of children into good environmental citizens. Therefore, it was reduced to an instrumental activity that was often predetermined and structured.

Experiential play was seen as the ideal way to learn by the forest school educators, but they argued issues surrounding resources and safety often restricted it. Forest school practitioners at Woodlands school did recognise that their model of experiential learning was not fully in the forest school ethos, as children would often be presented with a series of structured activities. They explained that this was due to whole classes of twenty-five to thirty children taking part in each forest school session, when ideally there should be no more than fifteen children. The reasons given for providing structured activities that sometimes children could choose from was that they did not have enough resources for children to have complete free choice. They were concerned that if they did not allocate children to certain activities they would all want to do the same thing, such as the mud kitchen. They were also worried that there was not adequate adult supervision, as generally there were five adults per class and one of them was usually assigned to work with a specific child with complex needs. As well as these concerns, there were fixed ideas about how forest school should be run as pre-planned and structured, which is revealed in the following fieldwork diary entry:

After the forest school session we talked about the level three forest school training that Lorraine [*FTA, WS, F, Wh.*] was undertaking. She told me those taking part have to produce a portfolio that shows

planning, including a risk-benefit assessment. When I suggested that planning and experiential learning are inconsistent the response was that there are too many risks in forest school so things need to be done properly and activities needed to be planned (*Fieldwork diary, Woodlands School, 09/06/2015*).

The idea that things must be done properly reveals an adult agenda that is about getting children to know and learn about the world in particular ways, rather than them developing their own ideas about nature. There were very few moments when children had unstructured time and were not doing pre-planned activities. For example, if children were identifying fungi they would concentrate on finding as many as possible rather than making broader observations and interactions with what surrounds them. Therefore, pre-planning of structured activities throughout the forest school session results in a narrowing of what children can do, restricting the range of encounters that they could have with more-than-humans.

### *Conclusion*

The analysis shows that the relationship between an individual's agency and discipline in the outdoor learning programmes is complex and changes within spaces across all of the sites. This chapter explores the moments when children were able to act spontaneously and more freely beyond disciplinary structures. For example, when autoletic practices emerged in the fire square with children rolling mud between their fingers or when children ran through the woodland. These acts often appeared in the cracks of the disciplinary system, when children were not being closely observed, but they are often fleeting, as adults were quick to restore discipline when events erupted. When children's individual agency overcomes the disciplinary system this can be seen as a strategy of

resistance. These resistances had the potential to re-order and equalise power relations between children and adults, yet all too often they were short lived, as disciplinary power remained pervasive.

Overall, rather than thinking of learning and knowledge creation in outdoor learning spaces as disciplinary or free, it is more useful to think of them as on a continuum, with discipline and autonomy on opposite ends, and with shifts occurring in unpredictable ways. It is impossible to fix what learning is or what children learn, as there are a web of interactions amongst a range of phenomena that are always in flux, at times including children, objects, representations and animals. There were a number of disciplinary processes present in the outdoor learning spaces, which have the potential to limit and regulate bodies. However, they also provided some individuals with opportunities to explore and develop ideas about the world and a politics of care. This complex situation arises within the forest school whereby discipline, at times, was excessive and preventing learning in a more open way, whilst for some participants it provided a politics of care enabling critical engagements with the world rather than a narrow focus upon the self (Stiegler, 2010). There were moments without structure, allowing more experiential forms of learning to emerge. These moments of experiential learning were fleeting, but within them children were able to encounter and construct knowledges about the world that challenged the accepted truths about nature. Hence, when learning was without roots, more-than-human entities were able to become in multiple ways (Deleuze and Guattari, 2000). For learning without roots to occur it needs to be free from pre-defined objectives and activities so that multiple possibilities of what could be learnt can exist (Deleuze and Guattari, 2000).

## **Chapter 7: The material-imaginary: a scary house, foxes, fire and mud.**

Multiple phenomena were assembled into a heterogeneous network that constituted the outdoor learning programmes, including people, money, plants, soil, objects and technologies (Whatmore, 2002). In this chapter imaginations and the more-than-social production of imaginations is explored through the following materialities and imaginings, including a Wendy House, imaginary foxes, fire and mud exposing how more-than-humans were pivotal in the co-production of natures. A more-than-social standpoint is taken, whereby the boundaries between more-than-human and human are seen to be dissolved, thus fusing them together (Haraway, 1991). However, the more-than-social position that is taken up does not break with the previous post-structural approach in the previous chapters, as Haraway like Foucault conceptualises bodies as objects of knowledge-power that are potentially shaped by social structures (*ibid.*). Materiality here will be seen as not something that is merely an end product of discourse, but as co-constituting ideas and practices (Barad, 2007).

In particular, imaginations/materialities are examined, in terms of how they were involved in the co-production of practices, experiences and spaces through the formation of assemblages (Deleuze and Guattari, 2000). In the outdoor learning spaces imaginations-materialities were assembled, folded, fused and broken apart as various performances of nature and childhood are enacted. Assemblage is used to conceptualise imaginations, as mediated by relations between phenomena creating unknown affects that have the potential to guide actions (Deleuze and Guattari, 2000). Imaginations will be framed as not a purely human expression of ourselves, but relations between phenomena and their

capacities to be able to act on and be acted upon (*ibid.*). Therefore, it becomes impossible to see imaginations and materialities in isolation and this chapter will develop a relational approach in their examination.

### *The scary house*

Mollie [8, *MS, F, Wh.*] tied ropes around trees, until eventual a large extent of the woodland was covered leading towards the Wendy House. She told me that this was an animal and human trap, so that they could look at them and then at the end of forest school let them go, but also a way to stop animals' pooing and weeing in the forest school, especially cats as they do that in her garden. Mollie tested the trap on my by leading me through the web of ropes and then inside the Wendy House, where she shut the door on me preventing me from leaving, she then started to bang the sides of the Wendy House telling me that I would not escape (*Fieldwork diary, Meadows School, 6/11/2014*)



Figure 11: The Wendy house at Meadows school

The Wendy House (figure 11), called the Scary House by children of all ages, was located at the boundary of the forest school, and it became a focal point for imaginary play. The fieldwork diary extract shows how through Mollie's imaginative play the Wendy House becomes a trap and a scary place for adults and animals, rather than for children, as in fairy tales like Hansel and Gretel. Mollie is clearly borrowing and mixing narratives from fairy tales, but she does so in a way that empowers children over adults and animals, and by incarcerating me she is displaying her agency and potential power. Mollie's play surrounding the Wendy House is essentially the fulfilment of her desires to create a world whereby adult-child relations are reversed and children become dominant. This example shows the affective drive behind play, through the realisation of Mollie's desires. Mollie is able to liberate herself from the constraints of their situation, as they develop ideas about what the world could become (Vygotsky, 1978). It also shows the importance of materiality in the facilitating imaginary play, as the Wendy House stimulates Mollie's re-imagining of child-adult relations. Yet, for many children the Wendy House was a scary place, with the traditional moral of fairy tales portraying children as vulnerable and should not venture without adults.

Fairy tales are deeply entrenched in western European cultural imaginations (Schama, 1995), and as children played or recollected about previous games they would often imagine the woods as being inhabited by mythical characters, such as witches, enchanted animals and monsters. These imaginings were stimulated by phenomena and surrounding environment as they fuse together in their production. At the Wendy House, children of all ages imagined it as enchanted, which was recalled in the following interview extracts:

Zoe [11, MS, F, Wh.]: There is the scary house [*the Wendy house*] we used to play there when we were in reception.

Naomi [11, MS, F, Wh.]: We used to call it the scary house because at playtime and here when we started, and people used to come into here and it was like terrifying, and there was like a red one was it further down or up.

Jax [9, MS, M, Wh.]: (*The Wendy House*) Inside its not very big and you can just about fit in here erm the other thing about the blue house is my granddad said that when he came here he saw a blue house over here and he said in here used to live a wolf and I didn't believe him, so I looked it up on the internet blue house primary school wolf and there was actually this really good drawing of a wolf sneaking out of the house with some thing and he went in there and stole some things and came out it was like some one lived there and then he like attacked them. That's like the mythological story about school and the blue house...I don't know if the teachers have heard it, but my granddad told me.

The Wendy house as a focal point for the stimulation of imaginary play at Meadows School is connected to the enchanted houses situated in forests that appear in a number of fairy tales and as Zoe and Naomi elude these are often scary places. In *Hansel and Gretel* the enchanted house is a site of cannibalism and in *Little Red Riding Hood* a place of death, these stories send out a clear message to children that unknown houses pose a danger to them. A sense of mysticism is created, as children's imaginations came to life through the material environment, as they are open to it being more than one becoming (Marshall, 2005). Nature is often strongly linked with mysticism as it is perceived to be an eternal living presence that provides spiritual regeneration away from contemporary lives (*ibid.*). Through Jax's quote we get a sense of how the Wendy House becomes the source of a powerful imaginary that allows him to break with his everyday experiences. Jax reveals how broader cultural mythologies can become localised, as the story that his Grandad tells him of the blue house echoes *Little Red Riding Hood*, yet he adds the local



geography of the school to the story. Therefore, the social imaginations of children are influenced not just by broader cultural beliefs that are presented through stories, but by local geographies and communities with them becoming weaved together to form more distinctive imaginings. Thus, knowledge, beliefs and values are not merely transmitted from representations and received by people, instead they move across communities in a process of reforming as they take on new meanings (Bourdieu, 1977).

In the outdoor learning spaces there were ruins that became important sites where imaginary-material relations were formed. These ruins varied from abandoned dens to spaces that had been left for plants to re-colonise them. One such ruin was the Wendy House at Meadows school, shown in figure 11, where the wooden structure has been partially colonised by surrounding vegetation and had begun to rot away. Edensor (2005a) suggests that industrial ruins often exist in a hiatus between the end of one industrial era and offer the potential for future redevelopment. The same can be said of the ruins in the outdoor learning spaces examined, for example, abandoned dens would be redeveloped by a new group of children and this process often happened time after time. Features created by previous outdoor initiatives in spaces, such as a pond, a sandpit, a wood, the wigloo and a garden, that had seemingly been forgotten were sometimes rediscovered and incorporated into the current outdoor learning programme. Edensor (2005a) states that ruins are spaces of nothingness bypassed by flows of money, energy and people. The ruins in the outdoor learning spaces had been bypassed by human maintenance allowing more-than-humans to flourish as plants and trees began to take root. It became clear that to maintain these outdoor learning spaces took a considerable amount of time and dedication, so it comes as little surprise that they can slip into ruin, as priorities in the schools change. These spaces had not necessarily been forgotten by children and

there lies the possibility for them to be re-imagined and recreated as lived spaces (Edensor, 2005b).

### *Foxes*

Amelia [8, *WS, F, Wh.*]:...I am going to show you this massive log where sometimes foxes go down it...Ok I am here now this is the massive log I wanted to show you all sometimes its like a bridge for animals, but sometimes its not for us. Emma do you want to say something about this log?

Emma [8, *WS, F, Wh.*]: Its really long, the foxes play here and we can play on it and you can play on it like this.

*[Emma climbs onto the log and then Amelia joins her as they balance together].*

The interview dialogue above reveals an animal that figured prominently in the imaginations of children at both forest schools, the fox. Children did not encounter real foxes, but they imagined their presence in a number of ways, including being threatening, playful and friendly. Emma and Amelia constructed foxes in anthropomorphic ways, and therefore fused phenomena together re-imagining them as behaving like them by playing on the log. Anthropomorphism took the form of giving animals emotions and as having needs that are often associated with being human, such as having a home, structured spaces with specific purposes, doing jobs, playing and belonging to a family. Foxes are commonly anthropomorphised across literature and popular culture, which may be due to their proximity to our lives across the UK, their furry appearance, clear facial features and as a mammal they appear to be more human like than other animals, such as worms. The anthropomorphism of animals is commonly found in childrens literature, such as Roald

Dahl's *Fantastic Mr Fox*, where a family of foxes are dressed in clothes, they have human emotions and social relations that echo gendered stereotypes, as such representations became woven into imaginary play. Although, children did not explicitly mention particular forms of representations as influencing how they perceived animals, they were read and/or studied books that depicted animals with human like qualities. At Garden School the nursery children were read *Chicken Licken* and Eric Carle's *The Very Hungry Caterpillar*, whilst children at Meadows school studied Beatrix Potter's stories. These books and children's re-imagining of animals in the outdoor learning spaces attributed human traits to them reducing the distance between animal-human, as at times it was forgotten that animals are more-than-human with unique characteristics (Tyler, 2009).

Anthropomorphism narrows how we think about animal life and effectively reduces possible becomings to ones whereby human thought overwrites potential animal activity, such as hunting and killing (Tyler, 2009). Thus, the anthropomorphism of foxes disguises these animals as being potentially threatening to people, as instead they become docile animals to be played with and this was seen through the performance of the micro-farmyard at Meadows School. At Meadows School kept chickens with children perceiving them to be passive animals that lived closely with foxes, as Jax and Katy reveal:

Jax [9, *MS, M, Wh.*]: In here used to live the chickens.

Katy [8, *MS, F, Wh.*]: And the foxes.

Jax: and foxes yes they lived in this very area right in this area here and the chickens would have waddled around here - boc, boc, boc (*He moves his head up and down, bends his arms to form wings*)...Here is now a garden area, for compost, leaves and new things to grow like the potatoes.

At Meadows school a micro-farmyard is created coming to life through Jax's embodied performance of becoming a chicken, as it is by doing things that spaces are made (Park *et. al.*, 2011; Taylor and Pacini-Ketchabaw, 2016). The farmyard came to life in lessons as it is a space where children learn about how eggs and vegetables are produced, and it mirrors the farmyard in the picture books as a sanitised space, where hens are happy. The farmyard in many children's books, such as Pat Hutchin's *Rosie's Walk* and Jez Alborough's *Six Little Chicks*, is presented as an idyll surrounded by countryside, absent of people, with chickens roaming freely and encountering 'friendly' wild animals, owls, frogs, mice and birds that prevent a fox from hunting. This sanitised version of the farm hides it as a production system and a site where animal bodies become meat, but also that foxes hunt and kill other animals. These books encourage children to develop a vivid and specific imagining of the rural, as a safe, healthy and happy place where nature can be readily encountered, and this portrayal is in stark contrast to the city reinforcing duality between urban/rural. The imaginary of places in books can (re)produce spaces, and the creation of 'farmyard' at Meadows school can be seen as connected to a nostalgic longing to recreate idealised rural childhoods (Park *et. al.*, 2011). It was a space where adult hopes and desires for children to have a certain kind of idyllic childhood in nature could be actualised in a form of utopian territorialisation, whereby the outdoor spaces of the school could be remapped towards another imagined time (*ibid.*).

Some children's constructions of foxes and other animals seem to be less connected to representations of them in fairy tales and children's literature as friendly magical creatures, and instead they suggest that they are more animal than human. Animals were seen as potentially threatening to humans, as the extracts of dialogue from interview transcripts below show:

Aimee [5, MS, F, Wh.]: I like living there sometimes...the foxes live there.

Carmela [5, MS, F, Wh.]: Are we allowed to go into the house?

Aimee: No because foxes live in there.

Carmela: *Giggling*

Aimee: [*Looks into the house*] There are foxes in there (*the Wendy house*)...down the hole in there. [*She then runs away to where their den is*].

Carmela: (*Giggling*) Aimee has run away (*Giggling*)

Melanie [9, MS, F, Me.]: Down there is where the foxes live and they kill the rabbits, which is really bad and I don't like that, but yeah that's all I've got to say.

Interviewer: So have you seen the foxes?

Melanie: I've seen the foxes in reception or in year one or two, there was a fox that just went in the woods and we like saw half its tail.

For Aimee the fox is scary due to its difference, she runs away from the imagined foxes as soon as she enters the Wendy house, but she is pulled back to it throughout the interview as she investigates their presence, each time running away. Melanie imagines the foxes as others, as they appear aggressive and act in ways that conflict with her morality through the killing of rabbits. Melanie's imagining of foxes challenges her ideas of nature, as something that is passive and can be moulded by people, which is a common theme throughout her interview as she talked about how various phenomena in forest school could potentially be transformed. For both Aimee and Melanie the fox appears to be something that is external to humanity and when they interact with its presence the fox is seen as a threat. This encounter echoes Rousseauian ideals of wildness and vulnerability, and therefore Aimee and Melanie need to be protected (Taylor, 2011). Thus, revealing how the construction of the natural childhood had been absorbed into Aimee and Melanie's collective imaginations and is at times performed by them.

## *Fire*

Fire has become viewed as separate from human bodies and as part of nature, in part due to the increasing dominance of discourses related to wilderness that seek to reconnect us with nature (Pyne, 1997). In forest schools fire was present, usually in the penultimate and final sessions, was considered as natural and unfamiliar to children, and that through repeated contact with it children are assumed to become related and connected to nature (Maynard, 2007). Wood fires have shifted in the public psyche from conceived as risky, destructive, polluting and a nuisance to those who come in contact with smoke to a mark of self-sufficiency and environmental consciousness (The Guardian, 8 March 2008). This change in attitudes has been marked by the reintroduction of fire into the home with the growth of wood burning stoves, open fires and garden fire pits. Yet, air pollution from domestic wood burning has long been recognised as an important contributor to poor ambient air quality (Fuller *et. al.*, 2013). In particular, there have been concerns about increasing particulate matter in air, which has been linked to poor health, including respiratory, cardiac diseases and at least 40,000 deaths per year in Europe (Sigsgaard *et. al.*, 2015). There are particular concerns that particulate pollution often does not disperse significantly overnight in the winter in UK cities and therefore remains concentrated within residential areas (Fuller *et. al.*, 2013). At forest school there was little consideration of the potential health effects of those taking part being exposed to smoke, and the consequences it could have upon nearby residents.

There have been growing concerns that parents, by trying to reduce the perceived risks that the outside world poses, have come to adopt an approach considered to be excessively restrictive (Furedi, 2001; Gill, 2007; James *et. al.*, 1998; Louv, 2005). In essence encouraging children to encounter fire can be seen as a broader response to worries about

overprotective parenting. This mood towards children as overprotected has been captured by *Project Wild Thing* a campaign that seeks to reconnect children with the outdoors. The projects members include the conservation charity involved in this project and forest schools (The Wild Network, 2015). The Wild Network (2015) claims that children have gone from 'free range' outdoor children to 'cotton wool' kids, whereby they are kept under close adult supervision in the realms of the home or other institutional spaces. It is suggested that this change has occurred within a generation, and has harmed the health and wellbeing of children, thus causing the emergence of Nature Deficit Disorder (*ibid.*). This is based upon the assumption that past childhoods were idyllic, freer and time spent outdoors was always beneficial. However, such perceptions have been contested by historical studies that have found time spent outdoors by children in 1950-1960's was done so out of necessity rather than for their enjoyment (Karston, 2005; Pooley *et. al.*, 2005). According to the studies, working class families lived in more impoverished and overcrowded conditions with little space for children to play inside (*ibid.*). The view that parents act in ways that are always overprotective, effectively wrapping their children up in cotton wool, lacks nuance as they are based upon assumptions that parental regulation is always problematic. Many children find some level of parental regulation reassuring, as it can enable children to negotiate a range of situations that they would otherwise avoid until they feel ready to tackle them by themselves (Benwell, 2013). Overall, the view that children are cotton wool kid's strengthens ideas that adults know what is best for children leaving little space for them to forge social relations on their own terms.

Fire is still constructed as unsuitable for children and when they do light fires this is often framed in the media as being disordered and dangerous behaviour, something that is unchildlike (Wonderland BBC2, 2011). Forest school was viewed as an appropriate context

where children can experience and experiment with fire (when under close adult supervision) (*also see discussion on risk and discipline in the fire square p.169*). The risk assessment of fire at Woodlands school lists the perceived benefits of such activity as learning a new skill, a wow experience, a sensory experience, creating a sense of community and purpose, whilst the risks listed are related to burns. The risk assessment is designed in such a way that the perceived benefits outweigh the risks. Interacting with fire is seen as being a way to learn how to negotiate risk in a controlled manner, which supposedly lessens the chance of a child taking part in risky fire lighting activities (Knight, 2013). Children would watch the fire, build small fires and cook on it, and these activities were done under close adult supervision. Some children did create imaginary fires when den building, they would create a fire pit, place sticks in it and then pretend to cook on it mimicking actual fire making practices in the forest school. The dialogue below reveals how children encounter fire:

Amelia [8, *WS, F, Wh.*]: We are by the surface where we normally sit by the fire square.

Emma [8, *WS, F, Wh.*]: We are not allowed in the middle of the fire square, because when we make fire we can get burnt, and we would get really hurt.

Amelia: And we are not allowed near it, and if we are doing something we have to ask miss something before we go in, but if there is a fire we are not allowed in at all.

Amelia: We are going to show you everybody's dens, and ours is mostly the best.

Emma: We also made campfires with them so sometimes we make fires, but they are really hard to make so we keep trying and we never give up.



The encounters that Amelia and Emma had with fire were very limited and managed closely by adults, involving watching and cooking. The presence of fire resulted in a strengthening of disciplinary power, as Emma and Amelia reveal that they had to confirm to avoid them being injured by it. All encounters with fire were heavily structured by adults and it became a vehicle with adults enacting even more power over children. Children had a different relationship with fire compared to the other phenomena examined, as Emma reveal they had to be active in order to keep the fire going. Fire is something that needs to be cared for; in order to for it to continue, otherwise it will die out. Fire had a visible life cycle that is witnessed in the forest school session, which could be seen as becoming a potential medium for children reflecting upon their own and others lives. Fire, as with mud, becomes therapeutic as a regulatory of emotions, but also it shaped their bodies, due to its capabilities to harm them.

Fire became a medium through which forest school was performed as an alternative form of learning, as different from and contrasting to the classroom. Anna highlighted how she believed that her performance as a classroom teacher was different from that as a forest school teacher as she told me "forest school is a lot more informal". Anna, through our conversations revealed that she perceived herself as an enabler of children's experiences, and for her this meant letting children choose rather than directing them. Learning in classroom was perceived as being more formal and passive, with children observing more-than-humans through representations and potentially scientific experiments in order to produce a model of what nature is. The fire was important in Anna's performance as enabler, as it was something that children could not do alone, but with her supervision and guidance it was something that they could co-produce together. Bound up with Anna's performance was an anxiety that existed surrounding the fire, she was worried about

getting and keeping the fire a light, as she felt this was a reflection upon her competence as outdoor expert. These anxieties were related to the unpredictability of the phenomena that made the fire possible, such as heavy rainfall and damp wood, could disassemble the fire (Hodder, 2012). When the fire was lit Anna would watch it closely and stay in close proximity to it, leaving parts of the wood with little surveillance so children would break boundaries. Thus, the fire had unexpected effects of creating gaps in disciplinary power that existed across the wood and gave children the opportunity to create different relations with more-than-humans, such as running and climbing trees.

The fire became a medium through which the forest school practitioners could perform the role as expert in the outdoors. Children were the audience who would watch repeated performances until they were thought to be capable of doing the fire lighting ritual. At Meadows school there was often a fire in the penultimate and last session, Anna would demonstrate to children how to create fires, in an ordered way, as they would sit around the fire square. She would reiterate the rules associated with fire and that they were not to create fires outside of forest school. She would then reinforce this by telling children about the specialist training she had received. Anna performed her professionalism through the routines established in the process of creating the fire. The lighting of the fire can be seen as a practice involving; safety (checking the fire pit, asserting rules, tying a fire blanket to a nearby tree and having water to hand), construction (placing the materials one by one in a specific order and in a neat structure), lighting (small sections would be lit, watching over the fire as it is lit and blowing on it if it fails to get going), observation and activity (supervising the fire and children, once the fire is deemed to be safe demonstrating how to cook on the fire and then allowing children to do the same) and finally putting the fire out (spreading the embers with a stick before pouring water on them, and repeating this

process). In this process of fire lighting, children are seen as incapable until they are an appropriate age (usually ten years old), showing again how age structured their lives. Once they have observed fire lighting on a number of occasions, they are then seen as able to construct and light a fire under adult supervision. Therefore, the performance of fire lighting cements established orders and boundaries reinforcing adult-child relations (McKenzie, 2001).

Fire did have capabilities influencing how children thought and their performances at forest school. When fire and children came together in an encounter, the materiality of this relation becomes woven with earlier ideas, actions and experiences of it, thus forming new knowledges (Barad, 2007). For example, the smoke of the fire affected children at forest school, it would make them cough, their clothes smell and their eyes sting. Doreen commented to me, as we sat around the fire "I don't like the stinky fire, it makes everything smell"; she wiped her eyes and tried to shuffle away from the smoke. This challenged the dominant idea within the forest school that lighting fires was beneficial to children and formed a way of them connecting to 'nature'. The fire did not only shape knowledge it also affected social relations, as shown in the following event. Another child began crying as the smoke got into their eyes and they started to sting. The reaction of the adults was to tell individuals to move seats. Yet, finding a seat that was not affected by the smoke was often difficult, as the wind changed direction. Once a new seat was found others would have to relocate by moving to allow them to sit down, this process formed new or reinforced existing social relations. Here, it is clear that the materiality of the fire becomes entangled with practices and social relations through processes of co-emergence (Barad, 2007). Fire and discourses, particularly those related to risk, merge producing social and spatial boundaries, this can be seen through the hierarchy of seating that is

produced and the smoke limiting the spaces that children can occupy. Therefore, smoke should not be merely considered as a by-product of the fire, but as a mediator that can form and reinforce existing social relations.

### *Mud*

Tyler [8, *WS, M, Wh.*]: If that fire square is muddy then we sometimes use this [*the balance area*]...we occasionally use this on small occasions, but we changed the fire square because its more dangerous because if some people were sitting this end they could topple off and fall down on to the brambles and bushes.

Bem [8, *WS, M, Bk.*]: This mud pit has really turned into a swamp; you can dig some clay and mud. We sometimes do activities on the field if the pit mound is really muddy.

Mud shaped children's performances, as it affected their mobility in terms of their ability to visit certain spaces (both indoors and outdoors) and do certain activities. Tyler revealed in his interview that the fire square is out of bounds when it gets too muddy and Bem described it as a "swamp". In the winter, at Woodlands School the paths in the central part of the wood turned into sludgy scars ploughed up by multiple footsteps. The thick glutinous mud would stick to children's wellies and waterproof trousers, un-footing some as they would trip and fall into the mud, as they tried to negotiate the path. Some parts of the path were designated as off bounds, as they became increasingly boggy, but children would still try to run through the thick mud as a challenge to see who could get to the other side. Children would also play in muddy puddles, jumping in them or using sticks to splash or stir them up, quite often until they were told not to by an adult. These events

show how mud was an enabler of certain experiences that were often spontaneous and differed from the more structured ways of playing with mud that were planned. For example, mud play predominately was encouraged to take place in the mud kitchen, an area where children had various objects, such as trowels, pots, pans and trays, used to mould mud. One of the key reasons given for encouraging mud play was its perceived therapeutic properties and tactility, and that dirt is seen as beneficial to children's wellbeing.

Dirt (including mud and water collected outdoors) can be viewed as a threat to children's health, as a signifier of disease and contagion (Campkin and Cox, 2007; Vigarello, 2008). Throughout the twentieth century, as society became anxious about dirt with an ever increasing array of technologies and products created and consumed with the promise to distance people from dirt (Campkin and Cox, 2007). However, attitudes surrounding dirt and cleanliness are not static, with sites of disgust and phenomena that are considered abject shifting throughout time and space (Laporte, 2000), as the quote below shows how attitudes toward dirt have changed:

“Dirt is good...without dirt there would be no experience. Dirt is the mark of adventure. Its a sign that we're getting stuck in and learning from life. Children don't only learn by being taught. They learn by doing. Hands-on experience, discovery, and trial and error are vital to every child's healthy happy development.” (Persil, 2015)

The quote above from a recent Persil advertisement campaign reflects a common narrative that is found across the media, advertisements, newspaper articles and outdoor literature that dirt/mud is good when children play in it. This narrative was also present with the forest schools and the garden. Mud is regarded as essential to a child's well-being and

development, as it becomes seen as an enabler of learning through experience, as having therapeutic properties, as a material that connects children with nature (Watts, 2013). The construction of mud as a therapeutic material in this context lies in the broader moral panic that children are not getting outside enough and that their lives are too clean (Louv, 2005; Gill, 2007). The idea that our lives are too clean originated from the hygiene hypothesis which suggests that a lack of exposure to germs and fewer childhood infections are to blame for the rise in childhood allergies (National Health Service, 2015). The circulation of the hygiene hypothesis in the media has suggested that modern hygiene standards are bad for our health (Daily Mail, 2012). Yet, the introduction of such standards has prevented the deaths of children, with regular hand washing decreasing the incidence of diarrhoea among children by almost 50% and cutting the spread of respiratory infections by 25% (UNICEF, 2014). Narratives that suggest dirt is good and that fire promotes healthy attitudes towards risk fit into western romantic visions of the natural childhood. However, they forget that they have the potential to be harmful to children and thousands of preventable child deaths are caused each year due to bacterial illnesses (such as cholera and typhoid). Children who live in areas where playing in dirt exposes them to contamination from faecal matter and infectious agents potentially suffer from severe diarrhoea, which can be life threatening and is predicted to be related to a significant number of childhood deaths (Gray, 2015). The dirt is good rhetoric exposes one of the flaws in the current childhood-nature debate, it effectively universalises childhood through a lack of sensitivity to the diverse experiences children have of their environment across space (Malone, 2015).

A consequence of positioning forest school as an alternative to classroom based learning was the exclusion of those learning materials traditionally associated with performances of

teaching and learning. Pens, pencils, paper, books and white boards were all absent. The forest schools instead contained an array of objects such as ropes, tarpaulin, pots, rakes, spades, paint brushes, wool, pegs and more. Many of the objects in forest school were used in interactions with mud and water, whereby they were shaped, transformed and applied through painting, filling of containers, creation of homes for mini-beasts and making of decorations. Thus mud and water, like the pencils, pens, crayons and paints of the classroom, became a medium through which children communicated their ideas. The following piece of interview dialogue shows how Mia [9, MS, F, Wh.] and Helen [10, MS, F, Wh.] created faces from clay and modelled them on to trees:

Mia: This is where we get our equipment from [*the shed*] and this is what we need to make stuff like dens and pots to make paints and wood and spades.

(*Pause*)

Interviewer: What do you make?

Helen: Clay things.

Mia: Yeah...bird feeders.

Interviewer: What do you make out of clay?

Helen: Cups...tree faces...erm, erm, erm.

Interviewer: Why do you make tree faces?

Helen: Because we think that trees are like hands and its like a body, so we put a face on it.

The making of the tree faces shows how Mia and Helen see trees as more-than-natural, as human-like with bodies. Thus they produce their version of nature, which is hybrid and connected rather than the more-than-human world being isolated. Mia and Helen use the clay and tree to try out their ideas about nature through a process that involves exploration and experimentation instead of repeating choreographed ideas about nature. The materiality of the forest school can be seen as an enabler, whereby children can imagine

and perform nature in a different way, and therefore adjust their personal ontology. In essence, mud was an active material influencing how children moved, it shaped opportunities, potential experiences and encounters, and importantly it was involved in co-production of knowledges.

Although, Mia and Helen performed a more hybrid and open form of nature, this occurred simultaneously with Cartesian forms of nature that emphasised discourses of wilderness and separation between phenomena. Performances of nature were generally habitual, repetitive and choreographed (Butler, 1997). At Woodlands school, both children and adults performed the Stone Age in order to recreate the pre-historic past when supposedly a purer relation with nature existed. The appearance of the Stone Age at Woodlands school echoes conservation models of re-wilding where landscapes are supposedly returned to their pre-historic state before human involvement (Adams, 2016) (*see p.19 for a discussion of re-wilding*). The presence of a pre-historic imagining within Woodlands school reinforces ideas that people in the past lived in harmony with nature and that by bringing this way of life, without technology, electricity, sanitation, secure food and water supplies, children can once more apparently become re-connected to the non-human world. Mud, wood and fire become important materials in this Stone Age re-imagining as they become essential in enabling human survival in a world conceived to be dominated by nature. They were used to imagine a purely natural space where children could experience the more-than-human world without the interference of contemporary society, as the following quotes reveal:

Tyler [8, *WS, M, Wh.*]: We are doing the Stone Age; we make huts to pretend that we are Stone Age people.



Bem [8, *WS, M, Bk.*]: We gather sticks so that we can make a fire or make our huts for the Stone Age now.

Tyler: Nature is like...its plants and woods and maybe animals if you are on a hill and you could find stuff to eat like worms if you were like in the Stone Age.

Tyler and Bem performed the Stone Age by gathering sticks to make huts and fire, and suggesting that worms could be collected as food. In doing so they use the surrounding material environment to imagine that they are in a different time. By attempting to immerse children in the 'natural' elements they are removed from their current social worlds and they re-imagine themselves in the pre-social context of nature (Prout, 2005). This connects to broader Rousseauian constructions of nature/childhood reinforcing notions of purity and vulnerability in order to separate them from spaces/ideas deemed to be (un)suitable by adults (Taylor, 2011). Tyler and Bem's relation with nature, through their performance of the Stone Age, is one whereby the more-than-human is used directly as a resource by acting out the process of hunting and gathering. This reinforces ideas that consider nature as a resource to be imagined and then moulded into human creations and/or purely to be utilised for our needs (Castree, 2005).

*Performing gender in the mud kitchen*



Figure 12: Mud kitchen at Meadows School

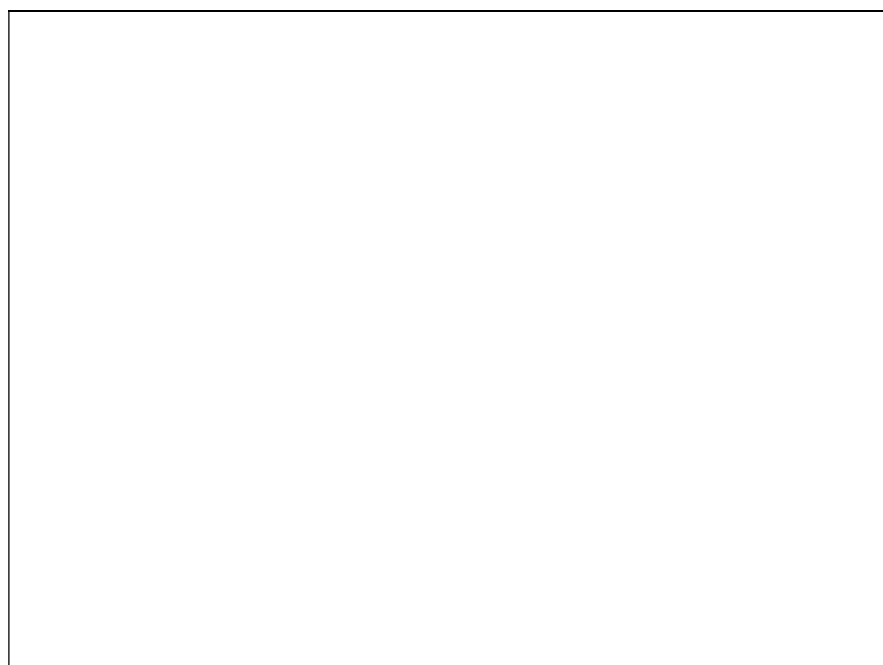


Figure 13: Mud kitchen at Woodlands school

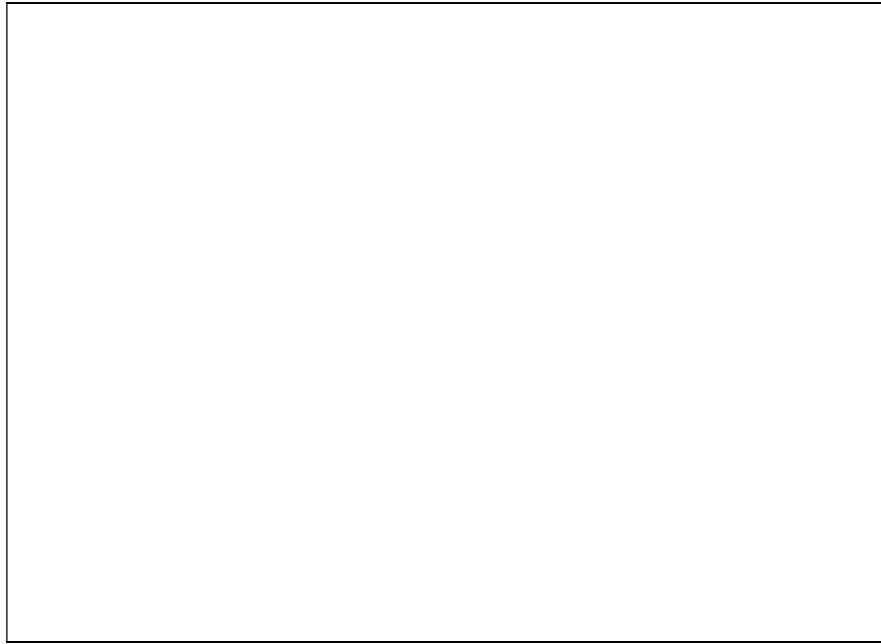


Figure 14: Mud Kitchen at Garden School

The mud kitchen has become a common sight in outdoor play settings; particularly those designed for early years. A mud kitchen is essentially an outdoor space that children are encouraged to play with mud, and this often involves a tactile engagement, digging and mixing it with other phenomena. This type of setting is thought to encourage open ended and spontaneous play, where children explore their environment in a creative and imaginative way (Wiltshire County Council, 2014). A mud kitchen was present in the forest schools and the school garden, as you can see from figures 12, 13 and 14. At Meadows school the mud kitchen could be potentially accessed by all children who attended, but at Woodlands school and Garden school access was limited to early years children. At Woodlands school access was limited, due to older children being engaged in structured pre-defined activities and at Garden school it was part of a segregated early years unit. Although, all children at Meadows school who attended forest school had access to the mud kitchen, only children up to the age of seven played in it. When speaking to children about the mud kitchen they told me that it was something they had enjoyed playing with when they were younger, but now they prefer to do other things

instead showing how age structured the types of activities undertaken and the spaces visited.

In both the mud and domestic kitchen, materials are an important part of their architecture making certain activities possible, and they actively shape their users thoughts and actions (Shove *et. al.*, 2007). For example, the Woodlands mud kitchen (figure 13) is formed from book cases allowing the pots, pans, baking trays and other items to be stacked, tidied and ordered by children, which they were encouraged to do once they had finished playing, thus replicating putting the dishes away. When it came to tidying up in the mud kitchen at Woodlands school, it was often the girls who did this task with the boys wandering off, although children did not clean the kitchen or mimic cleaning it. The clearing away of the objects in the mud kitchen by girls replicates what continues to happen in many households where women shoulder the burden of domestic work (Meah, 2014). The objects placed in each mud kitchen were translated in slightly differing ways by the adults who designed them. At Meadows school (figure 12) the mud kitchen is created from a series of wooden pallets stacked upon each other and at Woodlands school (figure 13), a wooden bookcase, boxes and plank have been used to create it. Wood was used for the construction of the mud kitchen in both forest schools and therefore considered to be natural, blending in with the trees that surround it. In the garden (figure 14) the brightly coloured powder blue and pink toy kitchen had been designed for indoor play and was highly visible. The kitchen, as with other goods, was re-imagined by both adults and children and was shaped by broader social concerns relating to childhood, nature and education (Gregson and Crewe, 2003). The kitchen was reconceptualised from one of cleanliness to one of dirt, and this can be seen as a reflection of current dominant societal values that children are too clean. Also, the practices in the toy kitchen changed,

as rather than cooking with plastic predefined shapes that represent different meals, children created their own imagined dishes from mud. Thus, highlighting concerns about children's play being overtly structured and the perceived need for child-centred learning through the manipulation of materials (Nordtømme, 2012).

The mud kitchens in the forest schools do not instantly appear to be kitchen-like. This furthers the idea that it is a separate space from the classroom and the home, but there is also a sense of familiarity about it through the choice of pans, baking trays and other kitchen utensils (Woodlands school) and Tupperware containers, paint pallets and plastic food containers (Meadows school). The movement of familiar domestic items outdoors essentially can be seen as a relocation of the home corner that is found in many pre-school settings. The home corner, is a mock home promoting a classic vision of domestic utopia where children are encouraged to engage in familial play that is assumed to be normal, natural, timeless and universal (Taylor, 2005). The home corner produces a feminised space that promotes a vision of traditional family life and gendered roles (*ibid.*). Children are guided by the layout and the artefacts in the home corner to undertake particular forms of domestic play, deemed to be natural and important in a child's social and emotional development (*ibid.*). The home corner becomes a way of enabling children to make sense of the world and for them to then act in specific gendered roles (Taylor, 2005).

The familiarity of the kitchen artefacts encouraged children to play in certain ways, making dinner, cakes and hot drinks. Generally, the mud kitchen was often a highly gendered space, both girls and boys performing specific gendered roles, as well as being engaged in familial play. Gender was performed through materials in the mud kitchen. The doing of gender involved it being enacted by drawing upon the binary logics of

masculine and feminine expected behaviours (Butler, 1997), as the following extract from the research diary shows:

Maheen [4, GS, F, ME.] played in the mud kitchen singing what sounded like bhangra music in the garden with Leanne [4, GS, F, Wh.]. Maheen has taken charge of the kitchen she was singing to herself as she flattened mud out into the pan and she was ordering Leanne to fetch her more mud. If the mud was not good enough in her opinion then she tipped it onto the ground, and sent Leanne to get some more. Ali [4, GS, M, ME.] then came along, she tries to get him to leave, but then he starts fiddling with the oven door pulling it off. Maheen signals for him to go away again, as he struggled to put the door back on, she took it from him and put it back on herself. Leanne left, Stacey [4, GS, F, Wh.] and Hamza [4, GS, M, ME.] joined Maheen at the kitchen, and she did not want them to play with the kitchen and signalled for them to go away. An adult intervened and told her that she must share the kitchen with the other children, a few moments later she ran onto the playground. The other children then play in the mud kitchen (*Fieldwork diary, Garden School, 12/05/2015*).

In the diary entry Maheen clearly performs a gendered role. Maheen, in her performance seems to be influenced by her Iranian background through the music that she sings, the movements that she makes as she rolls mud and her reaction to Ali entering the kitchen. Maheen tries to take charge of the kitchen as she appears to be making mud flatbread and she is willing to tolerate Leanne as long as she is following her demands. When the other children, particularly the boys, enter into the mud kitchen the domestic world that she has reproduced is under threat, so she tries to get them to leave. However, when the intervention of an adult prevents this, she abandons her domestic world and the other children continue to play. Maheen's performance in the mud kitchen can be seen as her creating a sense of place and belonging through taking control of an activity, as often she

is isolated and alone when outside. This can be seen as a reflection of the emergence of the kitchen as an important space for many minority women who use the kitchen as a space to build community and to "take on the challenges of a new life in a new place" (Longhurst *et. al.*, 2009: 342).

Gender relations and identities did not always fit into hetero-normative positions, whereby boys and girls neatly fell into specific roles, as performances can take on unexpected forms (Skeggs, 1997). The gender relations between boys and girls tended to be more fluid with them performing a range of practices that traditionally would have been associated with a specific gender. The movement across gender and between positions is shown in the fieldwork extract below as Kim and Steve play in the mud kitchen:

At forest school Steve [6, MS, M, Wh.] asks me if I would like to make dinner with him. He takes me away from the fire pit to the pallets that make up the mud kitchen. He instructs me what to do, to dig the mud up and place it in a bowl. Steve also digs, we are crouched down and using a trowel to dig with. He asks me to put more and more in, and then he fetches a water container starts pouring it into the bowl at first he is unsteady and he asks me to help him pour in the water. He tells me that we are making chicken nuggets for dinner. He then calls over Kim [6, MS, F, Wh.] to help with dinner and he tells her what needs to happen next. She starts stirring it with a stick; it's a very watery mixture. They then fill a painting pallet with mud, smooth it out and cut it into slices, making 'chocolate brownie'. They have used another paint pallet and filled it with mud and put moss on top – forming cup cakes. They continue to make dinner and then Kim shouts loudly, "Dinner's ready" and she then dishes it up for me placing them on a Tupperware lid and they give me a trowel to eat them with. (*Fieldwork diary, Meadows School, 02/10/2014*).

Kim is invited to play in the mud kitchen by Steve, and the gendered role that she initially performs appears much more passive than Maheen's. Kim does what Steve instructs her to do; as he prepares the mud and when 'dinner' is ready she takes on the role of dishing up, whilst serving Steve and me. In western societies the kitchen has undergone a profound social change from being an overtly female space, where women did supposedly women's work, to one that is increasingly a space of sociality where lines between male/female roles have become blurred (Meah, 2014). Often the kitchen is presented as an oppressive space for woman, but this is only a partial view (*ibid.*), although there were moments when Steve directed the mud play in the kitchen he was also fully involved in creating the meal. Kim by taking on the role of dishing up the dinner was able to render what the dinner was and how she thought it should be imagined by both Steve and myself. Therefore, the mud kitchen should not be seen as a space that reproduces oppressive gender relations, as it can be a space that allows both boys and girls to contribute and engage in relations that renegotiate gendered boundaries. This can be seen as a broader reflection of social changes in a post-modern period, whereby fixed gender roles are challenged and replaced by newer more flexible relations (Giddens, 1991).

### *Becoming dirty, becoming clean*

Mud play is often constructed as being a more natural form of play, but it has been made possible due to cleaning technologies, such as washing machines and modern detergents, that enable children's clothes to be cleaned quickly and effectively. From my personal experience of attending forest school I found my clothes and body were often muddy and smelly, especially if a fire was present. In order to prevent dirt and the smell of bonfire permeating throughout my home I would immediately shower, change and place my clothes in the washing machine. For parents this would create a considerable amount of



extra work for them, and potentially disrupt evening routines. At Meadows School, where forest school was a voluntary activity, a number of children choose to opt out or were unable to attend forest school. Attendance was often in single figures, and was dominated by middle-class girls. Anna spoke about how some parents had chosen not to send their children to forest school, and the expressed concerns about their child becoming dirty. To participate in forest school children had to bring an additional change of clothes, a warm coat and wellies into school. Often by the end of forest school children would be splattered with mud and their parents would collect them while they were still muddy. The consequences of mud play and responsibility for cleaning was left to the parents, and to ensure that their child was clean this would require both time and money. Meadows school is located in an area that is generalised by the Office of National Statistics (2013) as working class and multi-ethnic, with relatively high deprivation. For some parents they may not be able to afford either the time and/or the cleaning costs for their child(ren) to participate in forest school, thus exposing the social boundaries that exist in the community surrounding Meadows school.

Being clean is often considered to be a mark of social status, as it requires continual work and dirty work is often divided down class, ethnicity and gender lines (Campkin and Cox, 2007). Informal conversations with staff revealed parental concerns about their children becoming dirty, especially boys as girls were perceived to remain cleaner by avoiding mud. These concerns were likely to be particularly heightened by those who are working class, especially women, as they have become subjects of ridicule, as being associated with dirt, poverty and neglect of their children in the media and society more broadly (Skeggs, 2004; Haylett, 2001). In essence becoming dirty and the process of cleaning becomes an embodied social practice, a performance of discourses related to class, and

those parents that are able to undertake the work needed to keep their child clean are included in the forest school at Meadows school. Thus, dirt works effectively as a way of separating and governing bodies through the reinforcement of dominant value systems and social boundaries (Vigarello, 2008). At forest school it is not the appearance of dirt, but it is the act of becoming clean again that is a way of identifying bodies that are perceived to be working/middle class, whereby it is perceived to be good for you to become clean again.

In response to concerns about children becoming muddy, at Woodlands school (and later on in the year at Garden school), wellies and waterproofs were provided for children. The waterproofs and wellies worked as actants, as they both facilitated and constituted mud play. The waterproofs and wellies allowed mud play to continue by avoiding conflictual relations with other adults who found the presence of mud indoors as being out of place. The waterproofs and wellies did not exist in isolation as they were part of a heterogeneous network where multiple phenomena were assembled (Latour, 2005; Whatmore, 2002).

Figure 15: Waterproofs and welly storage at Woodlands school.

At Woodlands school children were provided with waterproof trousers and jackets, there was a set for each age range with up to thirty pairs in each. The provision of waterproofs cost a significant amount of money and required the school to make a considerable investment at a time when school budgets were being squeezed. The waterproofs were re-used regularly. Initially they were hung in classrooms, but this took up a considerable amount of space and interfered with everyday teaching and learning practices. A drying space was created (see figure 15), around a court yard with wooden poles installed into the wall so that they could be hung up, allowing them to dry and then be stored away for the next group of children to use. The waterproofs themselves had a finite life, and depending upon the quality of them the cheaper ones needed to be replaced every two to three years, as the water proofing became less effective and they were ripped and torn through repeated use. The waterproof provided a significant amount of work for the forest school practitioners, as they had to make sure they were stored properly in order to dry, pack them away and maintain them through re-waterproofing. At Woodlands school the work related to keeping children clean was shifted to the forest school teachers, rather than the parents, which enabled full participation in school time. It is worth noting that at Woodlands school there was a dedicated forest school teacher who did not teach other classes, whereas at Meadows school Anna worked full-time as a key stage one teacher. Thus, it was the assemblage of adequate storage space, investment in water proofs, committed curriculum time and having a dedicated forest school teacher and assistant that came together to make it possible for all of children in the school to attend at least one set of sessions.

The waterproofs and wellies did have some unexpected effects with some children refusing to wear them favouring their own clothes. The waterproofs made children's

bodies sweat and as they became uncomfortable they would ask to take them off. This had the effect of disassembling the technologies with the forest school that kept children clean and made them dirty, bringing them into conflict with their parents, as the extract of interview dialogue shows:

Emma [8, *WS*, *F*, *Wh.*]: You just go over some dirty mud and water.

Amelia [8, *WS*, *F*, *Wh.*]: Very disgusting.

Doreen [8, *WS*, *F*, *Bk.*]: My mum is going to be really mad,  
because I stepped in some mud [*she wipes her foot on a fern*].

Emma, Amelia and Doreen responded to mud in an emotive way rather than repeating the dominant message in the forest school that mud is good. The language used is important; Emma uses the word dirty to describe mud suggesting that it is out of place, and such a classification is a way of policing boundaries between her body and the more-than-human world (Douglas, 1966). The presence of mud on children also had the effect of strengthening dominant adult-child boundaries, as it became a way that adults could act on children's bodies to promote a moral agenda of cleanliness. For example, Doreen clearly feels that she has done something wrong stepping in the mud, due to the guilt that her mother is going to have to wash her clothes, and therefore mud for her becomes simultaneously a moral and physical problem. She is prompted to try and remove the mud, as she wiped her foot in the nearby undergrowth. Doreen was not the only child to have this moral dilemma, as children across the ethnographic sites in informal conversations spoke about the importance of not becoming dirty or if they did they were worried about the consequences from their parents. This was partially due to parents having to do the work to make their children clean again and not the teaching staff. Therefore, relations between parents-children in these instances were stronger than those

with outdoor educators, and children rejected the notion that mud is good, due to the conflictual relations it generated.

At both Garden school and Meadows school there were events when children brought mud into school and this created conflict with other adults not involved in outdoor learning. Some of these events are exemplified through the fieldwork diary extracts below:

Children were getting changed and ready for forest school in the classroom. Anna [*FST, MS, F, Wh.*] has gone to get changed. They put their wellies on inside, which were still muddy from the previous week. There were large pieces of mud falling off the wellies and on the carpet. Anna returns back into the classroom and she tells them that next week they must put them on outside, as it makes it hard for the cleaner. (*Fieldwork diary, Meadows school, 10/10/2014*)

Children were digging in the garden, and their shoes had become very muddy. When the bells were sounded they stood still and then ran back to the classroom without wiping their shoes. The teacher was not very happy because childrens shoes were muddy and they trod it into the carpet. She sent them back outside to clean their shoes. There was some mud on the carpet, Ali [*4, GS, M, ME.*] and some other children were picking small pieces up then rolling it in his fingers, as the teacher begins to read a story. (*Fieldwork diary, Garden school, 05/02/2015*)

Both diary entries highlight how mud for adults is out of place in the classroom and keeping it outside is a way of reinforcing the boundaries between what belongs inside and outside. In both extracts there is particular concern that the mud is being trod into the carpet, so that its presence might become more permanent and making it difficult to clean for the cleaners. The cleaners at both schools were working class women and the removing of dirt from the school by them can be seen as a reflection of class in society

more broadly. If the mud's presence is not removed then the classroom then it will be seen as being dirty, which becomes a moral concern for the teachers. Both teachers are seen to have ownership over the classroom and they may be concerned about the judgements that others may make, as dirt is often linked to neglect and lack of care (Campkin and Cox, 2007). However, children they do not take on the moral concerns that the teachers have, as their relations with mud flows across indoor and outdoor spaces. Children are drawn to the tactility of the mud, as Ali and some others sit and roll it between their fingers. Interestingly, this engagement with mud is similar to that of mud therapy that Jane promoted, whereby through moving the mud through his fingers Ali becomes related to it (Ingold, 2000). Therefore, children potentially find moments when they explore more-than-humans becoming more closely related to them than if they are being directed to learn and know about them in specific ways by adults.

### *Conclusion*

This chapter has illustrated through a more-than-social approach the complex relations that exist between imaginations-materialities. Desires/imaginings were mediated by relations between phenomena creating unknown affects that guided the actions of children as they encountered their surrounding environment (Deleuze and Guattari, 2000). Thus, the imaginings that children had in the woodland and the garden were not just human expressions, but they were assembled through relations with a range of material and more-than-human phenomena. Through the examination of imaginations and materiality (mud and fire) the more-than-human was shown to have capacities to act upon and be acted upon by people (Latour, 2005). Therefore, materials played an important role in performances of nature, education, class and gender by both children and adults, as they drew upon specific objects and things to enact them. These performances varied from

spontaneous experimentation where hybrid forms of nature were produced to those that were choreographed rehearsing a Cartesian narrative. Materiality was fused into performances and it became enabler. It shaped how children thought, moved and performed creating relations between them resulting in co-production of knowledge (Hinchliffe, 2007; Hinchliffe and Whatmore, 2006).

## **Chapter 8: Conclusion**

This study has drawn upon more-than-social geographies and pedagogies, which explore how we learn with more-than-humans and potentially rethink our place in the world, in order to think about the outdoor learning programmes critically (*see* Taylor and Pacini-Ketchabaw, 2015). I have argued throughout the analysis chapters of this thesis that the outdoor learning programmes incorporated Cartesian binaries - child-adult, male-female and people-nature. The knowledges and learning within them seems to do little to encourage more open ways of understanding and being in the world. This is clearly seen through the reproduction of normative gender positions as children engaged with the mud kitchen. The mud kitchen, like the home corner, promotes classic vision of domestic utopia where children are encouraged to engage in gendered and familial play that is assumed to be normal, natural, timeless and universal (*see p.208*). The materials in the mud kitchen encouraged children to undertake particular forms of domestic life and performances of expected masculine and feminine roles. Yet, gender relations and identities did not always fit into hetero-normative positions, as performances took on unexpected forms. We saw through Steve's performance in the mud kitchen (*see p.212*) how gendered roles did at times become blurred reflecting broader social changes marked by the emergence of more flexible gender relations. Therefore, the mud kitchen has the potential to be a space that allows both boys and girls to contribute and engage in relations that renegotiate gendered boundaries.

As discussed above the formal programme was Cartesian, but there were opportunities for other ways of learning, which children unconsciously exploited and developed. For example, there were moments of experiential learning, whereby children assembled an



array of more-than-humans to produce ways of learning and knowing about the world and potentially transforming their view of it (*see p.181 building the machine*). In these moments children were open to the capabilities of more-than-humans ideas and actions were co-produced. Thus, children were more open to moving away from Cartesian versions of nature and creating versions that were hybrid and more fluid (*see p.204 Mia and Helen*). From this perspective materiality became an enabler, whereby children can imagine and perform various forms of nature, learning and gender adjusting to their personal ontology. It shaped how children thought, moved and performed as knowledges were co-produced (*see Hinchliffe, 2007; Hinchliffe and Whatmore, 2006*). For example, forest school gives Melanie an opportunity to challenge dominant values within her field and it gives her a space where she can develop political ideas and test social relations. Through this example, forest school can be seen as providing a politics of care, whereby the individual is nurtured, develops a collective responsibility and critical engagement with the world rather than a narrow focus upon the self (Stiegler, 2010). Therefore, forest school enabled some children to engage with the world in a differing way from their daily lives and changed the way they thought about and acted in the world.

The broad aim of this study was to explore outdoor learning in a more-than-social way, which has been addressed by the first two research questions:

- 1) How do children taking part in the outdoor learning programmes encounter, learn about and understand the world?
- 2) What knowledges about nature, more-than-humans and children are created through outdoor learning programmes?

Ideas about nature and childhood in each of the outdoor learning programmes were dominated by Cartesian thinking, whereby they become fixed as something that is external from adults and narrowed as a Rousseauian construct- vulnerable, yet potentially wild. Therefore, the knowledges taught and learnt through these programmes reinforce popularist ideas, as well as dominant relations between adults-children and more-than-humans-people. One effect of knowledges surrounding adult-child relations was the establishment of disciplinary power in the spaces, but especially the forest schools. The creation of knowledges that presented children as disordered and in need of therapy allowed for their bodies to become sites to be shaped into the ideal environmentally conscious citizen. In order for this transformation to happen children learnt how to control their bodies and emotions. This process occurred through repetition of activity, technologies (such as the fire square) working upon them and undertaking therapy in the form of reflection. The outdoor learning spaces were often seen, by children and adults, as purely natural and even at times wildernesses that had therapeutic powers to transform children's lives, which led to blindness towards human-social relations. There was in the sites social reproduction with, at times, girls being dominated by boys, with little done to challenge these relations. Therefore, outdoor learning programmes did little to reconfigure human-social relations to more equal and open relationships with multiple possibilities of being available to all children.

In essence, the natural childhood rendered children as passive to the outdoor educators allowing them to present themselves as knowing what is best for children and more-than-humans by transforming them into environmental citizens. Environmental citizenship reinforced uneven power-relations between adults-children, through universalising judgements (*see Jane and Simon's quotes p.148-149*) that suggest children and their

families have little respect and do not know how to care for more-than-humans. The outdoor learning programmes for outdoor educators were about children learning rules of practice and making them responsible for themselves, others and more-than-humans. It was then hoped that through transformation into environmental citizens they would then transmit these ideas and practices to their families and communities. Many of children participating in the study showed concern and care for more-than-humans and they incorporated the messages of environmental citizenship into their lives. However, children's agency was apparent, they did passively receive the messages of environmental citizenship and they did, if not openly, challenge the more binary assumptions of the formal programme. This can be seen through the judgements made by some children about what it is to be a good environmental citizen, finding that adults did not always live up to their expectations (*see p.150*). Therefore, children questioned and challenged ideas that adults always knew what was best for them, and acted in their and the interests of more-than-humans.

Cartesian ontology shaped how those involved in outdoor learning thought about and acted towards more-than-humans. The more-than-human was reduced to having instrumental value, as a tool to make things with or to transform children into model citizens. It became something that is knowable and controllable through the application of science resulting in the subjectification of animal bodies. Acts of experimentation were justified, due to them being perceived as scientific, enabling children to dominate, be violent towards and potentially destructive of more-than-humans. In essence, children used the more-than-human as a backdrop against which they explored and developed human-social relations. Despite the Cartesian knowledges taught by the outdoor learning programmes there were moments when more-than-humans showed that they had the

capability to shape people's thoughts and behaviour and stimulate the learning of new knowledges about them. This happened when disciplinary power was weaker in the spaces, enabling children to learn in experiential ways. Children also needed to be open to the capabilities of more-than-humans for co-production to occur with the creation new and differing knowledges. From these fleeting moments of experiential learning, then more-than-humans were able to become in multiple ways and children came to know the world in a looser way, which relates to my final research question:

3) How does a more-than-social approach go beyond Cartesian binaries and reveal the complexity of learning and practices in outdoor learning programmes?

Performative approaches did reveal that Rousseauian ideals were embedded in constructions of nature and childhood. Yet, they gave only a partial view of children's lives and failed to consider the involvement of more-than-human encounters in them. Through a more-than-social approach, involving following various more-than-humans across sites, this exposed how phenomena became entangled with children's bodies actions and understandings of the world. It showed that the more-than-human/human cannot be kept in separation and that there is hybridity through the fusing of them together. A more-than-social approach revealed the complex relations that exist between imaginations-materialities and more-than-human within the outdoor learning spaces. A focus upon specific more-than-humans exposed the capabilities of them to be enablers, shaping thoughts, imaginings, performances and actions resulting in the co-production of knowledge. Therefore, a more-than-social approach alters the way we think about the world from knowing about it to knowing with it (Kraftl, 2013b).

### *Research contribution*

This section will outline how this thesis contributes to understandings of knowledge-power and the ways more-than-humans and children are involved in co-constituting power, learning, knowledge and childhood. In particular, this research contributes to understandings of the role and the affects that scientific learning and knowing through identification, classification and experimentation had upon children and more-than-humans. Although, these processes did at times narrow and restrict the becomings of both children and more-than-human. However, there were also moments when through material-imaginaries children were able to liberate themselves from the constraints of their situation, as they developed ideas about what the world could become.

### *Knowledge production: Identification, classification and experimentation*

This work makes a specific contribution to educational and childhood studies in relation to how the production of knowledges surrounding childhood and nature shapes lives by potentially limiting or enlivening them. Generally, this research found that the dominance of the natural childhood construct within the outdoor learning spaces had the potential to restrict relations between more-than-humans, children and adults. This particular construction of children and more-than-humans influenced ideas and learning that happened in outdoor learning spaces. One of the effects of this construction was that it narrowed ideas about childhood and more-than-humans with outdoor educators having a very rigid view about what nature is and how it should be encountered.

Children and more-than-humans were universalised with assumptions made about their capabilities, with adults generally presenting more-than-humans and children as incompetent and in need of adult care. Adults in their interviews (*see Simon and Jane*

*p.148-149*) draw upon discourses of incompetence, as children are seen as not knowing the right types of knowledge about nature and learning becomes an intervention through which a perceived knowledge gap can be filled. Thus, adults present themselves as knowing what is best for children, as more experienced and knowledgeable and who can transmit their understandings to children filling them with meaning. Such beliefs influenced the ontologies and epistemologies that were present in the outdoor learning programmes. For example, at the nature reserve children were trained to observe and identify birds through representations rather than direct experience. The use of such representations in pedagogical practices makes assumptions about what children are like, and they suggest that children are not sufficiently competent to observe and learn by engaging with the 'real thing'. These ideas about children as incompetent flowed into the epistemologies of the outdoor learning programmes as children were often taught about the world through methods that reduced its complexity and over simplified more-than-humans into static entities.

Through the outdoor learning programmes children learnt about the more-than-human world through processes of identification and classification (*see p.128*). The use of identification charts in these contexts allowed animals and plants to be placed neatly into one category or the next, in a process that appears smooth and objective. Identification and classification were forms of governance that allowed bio-power to flow through phenomena as they were sorted into things that did or did not belong. By focusing upon identification this potentially narrows and restricts how children encounter more-than-humans, as they learnt how the animal or plant should be known, how to look at it and how to categorise it (*see p.134 Marcus categorising tree blossom*). The focus upon identification fails to challenge learners to think critically, as the placement of phenomena

into neat categories, without contestation and messiness, is seen to be more desirable than children observing and debating difference. Therefore, a smoothing out of knowledge about the world takes place and it becomes devoid of complexity and nuance. Thus, this study contributes to educational studies as it gives a detailed account of how learning through identification and classification places limits upon human/more-than-human becomings and reduces phenomena to things that can be easily categorised.

Importantly, the reduction of phenomena into things to be sorted by identification and classification allows them to be seen as matter to be moulded. From the processes of identification and classification more-than-humans were subjugated allowing children to experiment on them in ways that were violent, harming and even causing death (*see p.140 full discussion*). It was hoped that by learning to care for mini-beasts that children would then go on to connect with them and become stewards for other more-than-humans, but instead discourses of care reduced animals to passive and docile entities. When care was combined with identification and classification this resulted in animals becoming docile that can be objectified and subdued, and therefore controllable. Violent acts of experimentation required objectification through measuring, counting and classifying, as these processes de-individualised mini-beasts making it possible for children to see them as bodies to be experimented with and detaching themselves from the affects of their actions. Thus, one of the key findings of this research is that through identification and classification more-than-humans were transformed into objects to be experimented with in order to further children's knowledge of nature.

This research shows how children and more-than-humans are not merely passive phenomena in the scientific processes of identification, classification and experimentation.

Through the focus groups some children (*see p.130*) expressed their dissatisfaction with learning about birds through representations at the nature reserve and that they wanted to learn about them for themselves. This could be seen as a more-than-social approach to learning whereby children learn to be affected by animals and are shaped by them through co-production. Many of the children who took part in the research had an interest in animals, which was shown in their interviews (*see p.133 discussion of encountering animals in everyday life*), through embodied actions (*see p.193 Jax becoming a chicken*) and being affected through encounters (*see p.180 children observing cardinal beetles*). Children had an aesthetic-affective openness towards the more-than-human (Harker, 2005), as they understood the more-than-human world in a less bounded and looser way, rather than rigidly applying classifications to species as adults did. Some children also began to dissolve the rigid boundaries of Cartesian thinking (*see p.204 for hybrid natures*), although not all the children accepted this potential reconfiguration of nature. Therefore, some children went beyond looking at more-than-humans through an objective lens, and as they watched and encountered animals they actively negotiated what ‘nature’ means.

### *Power-relations*

This research makes a particular contribution to understandings of how disciplinary power produces docile bodies, but in ways that are not always equal across individuals. In the outdoor learning spaces disciplinary power was used to train the body into behaving in certain ways. This occurred through learning routines, regulations, rewards, punishments and appropriate ideas/behaviours when outdoors and these were visible across the outdoor learning spaces. One of the effects of disciplinary power was that it created docility through technologies of the self, such as getting to know who you are and being responsible for yourself. The regulation of the self was most apparent in the forest



schools, and it was mobilised through health and safety discourses, whereby children internalised messages about risk and projected ideas that they were responsible for keeping themselves safe. These messages became woven into children's practices and can be seen through their actions, such as observing and making others aware of potential risks, monitoring risky behaviour of themselves/others and enacting embodied vulnerability (*see p.156 as Kelly creates a swing*). Thus, the forest school became a space of performance where children could show that they had accepted and were able to competently practice specific discourses related to health, risk and sustainability on their path to becoming environmentally conscious citizens (*see p.148*).

Disciplinary power was not always successful in containing children's bodies, particularly children who were younger and/or were identified as SEN were able to subvert its moulding properties. This gave these children, at least initially, greater freedoms and flexibility to act in ways that did not conform to the expected rules and routines in forest school. The bodily movements of children seen as having SEN's would often set them apart from the rest of the children and they were not disciplined in the same way (*see p.172 observations of Tara in the fire square*). These bodies were separated from the other children by dividing practices that sorted them into SEN/normal child (Foucault, 1991). Thus, the difference between bodies meant that those who were seen as not being able to conform were often positioned outside of the disciplinary system and therefore were freer than others, as they were not bounded by activities or routine. Also, disciplinary power was not always effective with younger children, as they did not readily conform to rituals and expected practices of forest school. Younger children were unfamiliar with the routines of forest school and the power of technologies, such as the fire square (*see p.173*). This highlights that disciplinary power can take some time to work

on the body and needs repetitions to become fully effective, as younger children had only partially internalised the rules and practices of forest school and their bodies were not fully compliant. Thus, one of the key contributions to understandings of disciplinary power is not all bodies respond in the same way to it and therefore its effectiveness varies.

Child-adult power relations within the outdoor learning spaces were complex and involved moments of domination, resistance, safety, stability and creativity. At times children were passive and they allowed disciplinary power to flow over their bodies, with this being seen most clearly in the fire square (*see p.169*). It is also important to acknowledge that the disciplinary systems in the outdoor learning spaces would not have existed without children actively taking part in surveillance and reporting of others. Children also contested the ideals of forest school and the prescribed ways that they were encouraged to encounter with more-than-humans. This can be seen through children's mobility as they ran through the woodland at Meadows school, thus defying the rule that suggested they should only walk. Even within the fire square, where disciplinary power was at its strongest, due to its panoptic technology, children through their interactions with mud and sticks frustrated forest school educators. Disciplinary power within children's geographies is usually framed in a negative way, as preventing action, but in this study I found that a more nuanced understanding is needed. For some children they found the presence of discipline enabling, for example it allowed them to have encounters and experiences that in their daily lives would have been deemed to risky, such as fire lighting. It also provided some children, like Melanie, with a safe space, where violence and domination from other children was suppressed so that they could develop and experiment with their own ideas about the world. Therefore, a major contribution of this research to children's geographies

is to reveal the complex human social relations and the nuances that exist within disciplinary systems.

This research also contributes to more-than-human geographies, particularly those that draw upon Foucault as a conceptual framework (*see* Holloway *et. al.*, 2009; Srinivasan, 2011; Asdal *et. al.*, 2017). More-than-humans were found in this research to be instrumental in the functioning of discipline, particularly through restricting movement. Specific phenomena, such as waterproof clothing, fire, furniture, pathways and trees, were assembled in the outdoor learning spaces to influence how children navigated the spaces and the encounters that they had in them. For example, waterproofs were part of an assemblage of things facilitating and constituting practices in forest school that simultaneously allowed surveillance, whilst they provided potential for children to go beyond boundaries by disappearing deep into the woodland (*see p.215*). Overall, waterproofs were part of an apparatus of broader disciplinary technologies, the fire square and mud kitchen that attempted to control the movement of bodies and regulate behaviour. There were times when discipline was overbearing, preventing children from developing looser ways of knowing and more open relations with the more-than-humans. Yet, some children did attempt to forge their own ways of being in the outdoor learning spaces, certain phenomena, such as sticks used to stir and splash puddles, emerged as things that had the potential to disrupt order in outdoor learning spaces. Thus, the ways that more-than-humans emerged in children's encounters with them was pivotal in the formation of power-relations.

### *Material-imaginaries*

This research makes an important contribution to understandings of how knowledges and practices co-emerge in outdoor learning through material-imaginaries. The analysis in chapter 7 shows how materials-imaginings are woven together with matter, such as the Wendy house, in the outdoor learning spaces combining with stories from fairy tales, children's literature and inter-generational tales. The entanglement of material-imaginaries generated powerful affects, generated play and new possible becomings, as some children challenged adult-child relations through their reinterpretations of fairy tales as they assembled a range of materials (*see p.143 Mollie and the trap*). By mobilising material-imaginaries children were able to display their agency and potential power fulfilling desires to create a world, whereby adult-child relations are reversed and children become dominant. Therefore, children through material-imaginaries were able to liberate themselves from the constraints of their situation, as they developed ideas about what the world could become.

Material-imaginaries were important in learning about and understanding the world around them, as mentioned above there were times when children were able to re-imagine their relationships, but specific imaginaries reinforce the Cartesian divide. In particular anthropomorphism did limit the child-animal relations and took the form of giving animals emotions, as well as having needs that are often associated with being human. As explored in chapter 7 foxes were imagined across the forest schools, and these imaginings were often connected to representations found in children's literature. It was often the surrounding environment that would spark children's imaginations of foxes, as they imagined them in woodland and at Meadows school threatening the chickens (*see p.192*). Thus, stories and children's re-imagining of animals attributing them with human traits

reduced the distance between animal-human, but at times it was forgotten that animals are more-than-human with unique characteristics. Therefore, within the outdoor learning programmes anthropomorphism narrowed how children thought about animal life and effectively reduces possible becomings to ones whereby human thought overwrites potential animal agency, as they became docile beings.

Materials were not just merely matter, they were active and lively, they shaped thoughts, emotions and actions of those involved in the outdoor learning programmes. Material-imaginaries influenced children's movements in ways that could be both limiting through restrictions placed upon the body or they could open up new opportunities and ways of being in and seeing the world. For example, the re-imagining of dark fairy tales for some children meant that they avoided the Wendy house, but for others it became a site of fascination and to exceed boundaries (*see p.188*). Through material-imaginaries some children explored and experimented with conceptualisations of nature instead of repeating choreographed ideas. For example as Mia and Helen imagined and constructed hybrid forms of nature as they expressed the liveliness of trees by creating clay faces (*see p.204*). Therefore, material-imaginaries can be seen as enablers, whereby children can imagine and perform nature in a different way, and therefore adjust their personal ontology.

The entanglement of children's bodies with materialities, such as mud and smoke, had complex affects upon those who encountered them. For some children such entanglements overwhelmed their boundaries and challenged the dominant messages promoted by the outdoor learning programmes. For example, that encountering mud is always beneficial due to its perceived therapeutic properties, but instead for some children when mud was out of place it overwhelmed their personal boundaries and put them into

conflict with adults (*see p.217 Doreen's muddy shoes*). Thus, the presence of mud on children at times had the effect of strengthening dominant adult-child boundaries, as it became a way that adults could act on children's bodies to promote a moral agenda of cleanliness. Both children and adults created barriers between bodies and mud as they tried to separate it into an individual entity that can be controlled and managed (*see p.215 wearing of waterproofs*). These efforts to contain mud were unsuccessful; it permeated beyond the outdoor learning spaces into school and the home creating extra work that often reinforced the gender divide. Therefore, material-imaginings were powerful and had the potential to shape/reinforce social relations as they became entangled with bodies.

### *Recommendations*

This thesis began by setting the context for the growth of outdoor learning programmes under the back drop of an age old fear that children have been, and are, disconnected from nature and therefore they have become disordered. Today, this fear has been expressed as NDD, which serves as justification for the development of outdoor learning programmes in educational settings. NDD has represented children as having a range of health issues due to their supposed lack of contact with nature and it has been broadly circulated as truth. This has enabled children's bodies to be targeted and for adults to intervene in their lives through strategies that attempted to 'reconnect' children with 'nature'. This thesis has been critical of the NDD discourse throughout and has shown how children's lives are entangled with more-than-humans. The lives of animals, children and others are inherently more complex and messy than NDD considers, as they are constantly in flow and change through encounters with others making it impossible to separate them (Deleuze and Guattari, 2000). Therefore, the presence of NDD discourses in outdoor

learning programmes is problematic, particularly because it limits what more-than-humans and children can become.

Instead of being informed by NDD discourses I would recommend that outdoor learning programmes use a more-than-social approach (*see p.79 for a more detailed discussion*) as a framework for knowing and learning about the world. A more-than-social approach has important implications for how the more-than-human is known and learnt about. Through a more-than-social approach encounters between phenomena are explored, and considerations about how we learn with more-than-humans are made, giving the potential and possibility to rethink our place in the world (see Taylor and Pacini-Ketchabaw, 2015). The ways of knowing and learning in each outdoor learning programme were dominated by science with more-than-humans reduced to something that was easy to define and understand. Phenomena were subjugated through sorting and classifying as belonging or not, leaving little space for the possibility for multiple becomings. Through a more-than-social approach phenomena are seen relationally, as having capabilities to shape others. Through such an approach animal-child lives are seen as entangled and involved in co-producing knowledges about the world and therefore challenging ideas that children have NDD and are disconnected from more-than-humans.

A more-than-social approach requires us to know and learn about the world in a looser way giving more-than-humans life. Drawing upon the work of Deleuze and Guattari (2000), outdoor learning should be without roots, whereby learning is not teleological, but arises from encounters that can generate spontaneous and unexpected learning with multiple possibilities existing of what could be learnt. One way to allow for looser learning and knowing in the outdoor learning programmes learning is for objectives,

expected outcomes and prescriptive activities to be removed from them. These programmes have the potential to challenge thinking around nature by reconceptualising what it is by considering not lies within (or outside) nature, but how phenomena are connected to form an array of natures and to explore the capabilities that the more-than-human has.

More equal human-social relations need to be developed in the outdoor learning programmes. Adults involved in outdoor learning need to consider their role carefully by moving away from fixing phenomena and recognising that they have numerous becomings some of them known and others unknown. Nevertheless, as I discovered, and explored in the methodology, despite our best efforts to minimise power relations, including adult-child and child-child, they still exist. To create more equal relations adults need to be open to becoming other identities that are formed through co-production and to find possibilities for reducing their dominance over children. A more equal relationship should allow children to be involved in all aspects of outdoor learning programmes, if they choose to be, including the creation of the space, the materials used, the boundaries set and what happens there. How children conceive the programme and what they wish to do, is also likely to change over time, so there needs to be flexibility with a willingness to adapt over time.

The outdoor learning spaces need to be seen as more than natural, as sites where social relations are enacted, developed and reproduced. Both children and adults need to be aware of potential inequalities and be willing to intervene and challenge them if they develop. From some of the events I witnessed I would recommend that when setting the boundaries of the site this includes an examination of social relationships. Children



should be encouraged to talk about their experiences and explore ways that they think relationships could be made more equal. If events erupt, for example boys chasing girls with large sticks, then they all should be stopped, but rather than disciplining them they could have examined the event together looking at why it happened, how it made people feel and what could be done differently. Yet, there should not be a fixed model of how to tackle unequal relations, as they will be dependent upon those participating at each programme and some of the events arising will be unexpected. Instead, there needs to be an acknowledgement that unequal relations exist, sensitivity to them and willingness to experiment with different ways to challenge them.

### *Limitations*

Throughout this research I attempted to capture the complexity of more-than-human and child relations presenting a more nuanced view than popularist representations where children are disconnected from the natural world and outdoor learning is always beneficial for those taking part. The ethnographic sites are used to think about the wider character of contemporary children's relations with more-than-humans and ideas surrounding nature. However, this thesis takes a more-than-social approach, although this does not offer the only possible theoretical explanation of learning practices and encounters in outdoor learning spaces (*for a phenomenological perspective see Hordyk et. al., 2015*). It is also important to highlight that only four sites took part in this research and they are not representative of all outdoor learning programmes in the UK. There were clear differences between the two forest schools in the study and there may be more variation when compared to others. Diversity exists within the forest school movement, as explained in the methodology (*see p.88*), in terms of how they are organised and how child

engagements with animals and matter are approached, even though they follow a similar ethos.

I attempted to capture the multitude of experiences and perspectives from participants representing them both accurately and fairly. The triangulation of methods, from participant observations, walking interviews and focus groups did reveal the complex engagements that the participants had with more-than-humans and each other in the outdoor learning spaces. Although, I feel that I cannot confidently say that children felt accurately represented, due to a set back I faced. I did intend to revisit the participants to present my findings to them in a focus group so that they could evaluate them and to ascertain that they were a fair representation. Meadows, Wetlands and Woodlands schools considered that an additional focus group would be too disruptive to children's lessons so they were unwilling to grant permission for such an event. The gatekeeper, at Garden school, who worked with me left once I had completed my analysis and some children had also moved on. Therefore, I was unable to scrutinise my findings with participants to check that they were representative of their experiences.

### *Future research*

#### *Beyond outdoor learning programmes: spaces of the family*

The influence of familial intergenerational relationships on children's encounters with and understandings of more-than-humans should be explored more fully in future research. This would respond to calls to conduct relationally intergenerational geographical research with children in familial contexts (Holt, 2011; Kraftl, 2013a; Valentine and Hughes, 2011). It would contribute to work that examines the intergenerational transmission of values and how they are contested in families (Vanderbeck, 2007). The combining or

research within an outdoor learning programme and the home in order to gain a deeper understanding into how these sites are (dis)connected in the generation of environmental ethics and encounters with more-than-humans.

*More-than-social approaches: beyond the outdoors.*

The outdoor learning spaces were inherently connected with other spaces in and beyond the school. In the thesis I did in places explore the interconnections between in/outdoor spaces, but my main focus was upon the outdoors. This approach has resulted in the reproduction of an indoor/outdoor binary, rather than representing spaces as flowing between and across each other. Therefore, a future study should examine children's engagements with more-than-human in a fully relational way across spaces. This would respond to Kraftl's (2013b) call to examine material-child relations in everyday contexts to understand how things matter to children.

*More-than-social approaches: disabled children's encounters*

A large body of work does exist exploring disabled children's relations with materiality but this work is often through the lens of inclusivity looking at how there are included/excluded from spaces (Davidson and Smith, 2009; Avramovic and Žegarac, 2016; von Benzon, 2016). Existing research has found that people with autism seem to have openness towards the more-than-human (Davidson and Smith, 2009). Yet, there is little in-depth work that takes a more-than-social approach examining how children with disabilities sense and encounter the more-than-human world. Such a study could open up numerous possibilities for new understandings of how disabled children experience the world.

## Bibliography

Abebe, T. and Bessell, S. (2014) 'Advancing ethical research with children: critical reflections on ethical guidelines' Children's Geographies 12:1, 126-133.

Adams, W.M. (2016) 'Geographies of conservation I: De-extinction and precision conservation' Progress in Human Geography, 1-12

Africa. Episode 2, 'Savannah', BBC 2. 9 January 2013. 2100 hrs.

Ailwood, J. (2003) 'Governing early childhood education through play', Contemporary Issues in Early Childhood 4:3, 286-299.

Aitken, S. (2001) Geographies of young people: the morally contested spaces of identity London, Routledge.

Aitken, S. C., Lund, R., and Trine Kjørholt, A. (2007) 'Why children? Why now?' Children's Geographies 5:1-2, 3-14.

Alderson, P. (2013) Childhoods, real and imagined London, Routledge.

Anderson, B., and Harrison, P. (2006) 'Questioning affect and emotion' Area 38:3, 333-335.

Änggård, E. (2016) 'How matter comes to matter in children's nature play: posthumanist approaches and children's geographies' Children's Geographies 14:1, 77-90.

Ansell, N., Robson, E., Hajdu, F. and van Blerk, L. (2012) 'Learning from young people about their lives: using participatory methods to research the impacts of AIDS in southern Africa' Children's Geographies 10:2, 169-186.

Asdal K., Druglitrø, T. and Hinchliffe, S. (2017) 'Introduction: the more-than-human condition: Sentient Creatures and Versions of Biopolitics' in K. Asdal, T. Druglitrø, and S. Hinchliffe (eds.) Humans, Animals and Biopolitics: The more-than-human condition Abingdon, Routledge.

Avramović, M. and Žegarac, N. (2016) '“Me at the Centre”: perspectives of children with disabilities on community-based services in Serbia' Children's Geographies 1-17.

Bäckstrand, K. (2004) 'Scientisation vs. civic expertise in environmental governance: eco-feminist, eco-modern and post-modern responses' Environmental Politics 13:4, 695-714.

Ball, S. J. (2013) Foucault, power, and education London, Routledge.

Bandura, A. (1977) Social Learning Theory New Jersey, Prentice-Hall.

Beazley, H. (2003) 'Voices from the Margins: Street Children's Subcultures in Indonesia' Children's Geographies 1:2, 181-200.

Bell, D. (2005) 'Liberal environmental citizenship', Environmental Politics 14:2, 179-194.

Benwell, M.C. (2013) 'Rethinking conceptualisations of adult-imposed restriction and children's experiences of autonomy in outdoor space' Children's Geographies 11:1, 28-43.

Berry, T. (1990) The dream of the earth San Francisco, Sierra Club books.

Besley, T. (2009) 'Foucault, truth telling and technologies of the self in schools' The Journal of Educational Enquiry 6:1, 76-89.

Biermann, C. and Mansfield, B. (2014) 'Biodiversity, purity, and death: conservation biology as biopolitics' Environment and Planning D: Society and Space 32:2, 257-273.

Blazek, M. and Hraňová, P. (2012) 'Emerging relationships and diverse motivations and benefits in participatory video with young people' Children's Geographies 10:2, 151-168.

Bowker, G. and Star, S.L. (1999) Sorting things out. Classification and its consequences Cambridge (MA), MIT press.

Bourdieu, P. (1977) Outline of a Theory of Practice Cambridge, Cambridge University Press.

Bourdieu, P. (1990) Reproduction in education, society, and culture London, Sage.

Braun, B. (2002) The intemperate rainforest Minneapolis, University of Minnesota Press.

Braun, B. (2009) 'Nature', in N. Castree, D. Demeritt, D. Livermore and B. Rhoads (eds.) A companion to environmental geography Oxford, Blackwell, 29-36.

Brignall, M. (2008) 'Chop, chop! Get a wood-burning stove', The Guardian, 8 March, 2008.

British Broadcasting Corporation (2015) 'Children in England 'among unhappiest in world'' [Online]. Available from; <http://www.bbc.co.uk/news/education-33984082> [Accessed 12 October 2015]

Bryman, A. (2008) Social Research Methods Oxford, Oxford University Press.

Butler, J. (1993) Bodies that Matter: On the Discursive Limits of "sex" London, Routledge.

Butler, J. (1997) Excitable speech: A politics of the performative London, Psychology Press.

Cahill, C. (2004) 'Defying Gravity? Raising Consciousness Through Collective Research' Children's Geographies 2:2, 273-286

Campkin, B. and Cox, R. (2007) 'Dirt: New Geographies of Cleanliness and Contamination', in B. Campkin and R. Cox (eds.) Introduction: Materialities and Methaphors of dirt and clean London, IB Tauris, 1-11

Castree, N. (1995) 'The nature of produced nature' Antipode 27:1, 12-48.

Castree, N. (1997) 'Nature, economy and the cultural politics of theory: The 'war against the seals' in the Bering Sea 1870-1911' Geoforum 28:1, 1-20.

Castree, N. (2001) 'Socializing nature: Theory, Practice and Politics', in N. Castree and B. Braun (eds.) Social nature Theory, Practice and Politics Oxford, Blackwell, 1-22.

Castree, N. (2002) 'False antitheses? Marxism, nature and actor-networks' Antipode 34:1, 111-146.

Castree, N. (2005) Nature London, Routledge.

Castree, N. (2013) Making sense of nature London, Routledge.

Carle, E. (2007) The very hungry caterpillar New York, Grosset & Dunlap.

Chambers, A.F (1999) What is this thing called science? Buckingham, Open University Press.

Clarke, L. (2012) 'Children need to get outdoors more, says National Trust' [Online]. Available from; <http://www.dailymail.co.uk/travel/article-2208294/National-Trust-reports-says-children-need-enjoy-outdoors-more.html> [Accessed 30th November 2016]

Cloke, P., Cooke, P., Cursons, J., Milbourne, P., & Widdowfield, R. (2000) 'Ethics, reflexivity and research: encounters with homeless people' Ethics, Place & Environment 3:2, 133-154.

Collins (2003) Collins English Dictionary Glasgow, Harper Collins Publishers.

Cook, I. (2004) 'Follow the thing: Papaya' Antipode 36:4, 642-664.

Cooke, B. and Kathari, U. (2001) 'The case for participation as tyranny', in B. Cooke and U. Kothari (eds.) Participation: the new tyranny? London, Zed Books, 1-13.

Conrad, P. (2007) The Medicalization of Society Baltimore, Johns Hopkins University Press.

Conradson, D. (2007) 'The experiential economy of stillness: places of retreat in contemporary Britain', in A. Williams (ed.) Therapeutic landscapes, London, Routledge, 33-48.

Corbin, J.M. and Strauss, A. (1990) 'Grounded theory research: Procedures, canons, and evaluative criteria' Qualitative sociology 13:1, 3-21.

Corsaro, W.A. (2005) The Sociology of Childhood Thousand Oaks (California), Pine Forge Press.

Crang, M. (2003) 'Qualitative methods touchy, feely, look-see?' Progress in human geography 27:4, 494-504.

Cresswell, T. and Merriman, P. (2011) Geographies of mobilities: Practices, spaces, subjects London, Ashgate Publishing.

Cresswell, T. (2006) On the move: Mobility in the modern western world London, Taylor & Francis.

Cronon, W. (1995) 'The trouble with wilderness; or, getting back to the wrong nature', in W. Cronon (ed.) Uncommon Ground: Toward Reinventing Nature New York, W.W. Norton and Co, 69-90.

Crossley, N. (1995) 'Merleau-Ponty, the elusive body and carnal sociology' Body & society 1:1, 43-63.

Crotty, M. (1998) The Foundations of Social Research: meaning and perspective in the research process London, Sage Publications.

Dahl. R. (2007) Fantastic Mr Fox London, Penguin Books.

Davidson, J. and Milligan, C. (2004) 'Embodying emotion sensing space: introducing emotional geographies' Social & Cultural Geography 5:4, 523-532.

Davidson, J. and Smith, M. (2009) 'Autistic autobiographies and more-than-human emotional geographies' Environment and Planning D: Society and Space 27:5, 898-916.

Dawney, L., (2011) 'Social imaginaries and therapeutic self-work: the ethics of the embodied imagination' The Sociological Review 59:3, 535-552.

Dean, M. (1999) Governmentality: power and rule in modern society London, Sage.

Deleuze, G. (1992) 'Postscript on the Societies of Control' October 59, 3-7.

Deleuze, G. (1994) Difference and repetition Columbia, Columbia University Press.

Deleuze, G. and Guattari, F. (2000) Thousand Plateaus London, Continuum International Publishing.

Demeritt, D. (2002) 'What is the 'social construction of nature'? A typology and sympathetic critique' Progress in Human Geography 26:6, 767-790.

Department for Communities and Local Government (2015) 'English indices of deprivation' [Online]. Available from;

<https://www.gov.uk/government/collections/english-indices-of-deprivation> [Accessed 9 September 2017].



Department of Education (2015) 'National Curriculum in England' [Online]. Available from;

<https://www.gov.uk/government/publications/national-curriculum-in-england-science-programmes-of-study/national-curriculum-in-england-science-programmes-of-study> [Accessed 19 May 2017].

Department for Environment, Food and Rural Affairs (DEFRA) (2011) The Natural Choice: securing the value of nature London, HMSO.

Dewey, J. (1963) Experience and education New York, Collier Books.

Dewey, J. (1966) Democracy and education: an introduction to the philosophy of education New York, Free Press.

Dewsbury, J-D. (2003) 'Witnessing space: 'knowledge without contemplation'' Environment and Planning A 35:11, 1907-1932.

Dickinson, E. (2013) 'The misdiagnosis: Rethinking "nature-deficit disorder"' Environmental Communication: A Journal of Nature and Culture 7:3, 315-335.

Dobson A. (2007) 'Environmental citizenship: Towards sustainable development' Sustainable Development 15:5, 276-285.

Dobson, A. (2008) 'Nature (and politics)' Environmental Values 17:2, 285-301.

Donnelly, L. and Scott, P. (2017) 'Mental health crisis among children as selfie culture sees cases of anxiety rise by 42 per cent in five years, NHS figures show' The Telegraph 22 January, 2017.

Douglas, M. (1966) Purity and Danger London, Routledge.

Ecclestone, K. and Hayes, D. (2008) The Dangerous Rise of Therapeutic Education London, Routledge.

Economic and Social Research Council (2015) 'ESRC Framework for Research Ethics' [Online]. Available from: <http://www.esrc.ac.uk/files/funding/guidance-for-applicants/esrc-framework-for-research-ethics-2015/> [Accessed 12 July 2016].

Edensor, T. (2000) 'Walking in the British countryside: reflexivity, embodied practices and ways to escape' Body & Society 6:3-4, 81-106.

Edensor, T. (2005a) 'The ghosts of industrial ruins: ordering and disordering memory in excessive space' Environment and Planning D 23:6, 829.

Edensor, T. (2005b) 'Waste matter-the debris of industrial ruins and the disordering of the material world' Journal of Material Culture, 10:3, 311-333.

Environment, Food and Rural Affairs Committee (2012) 'Natural Environment White Paper'. Available from;

<http://www.publications.parliament.uk/pa/cm201213/cmselect/cmenvfru/492/49204.htm>  
[Accessed 25/11/2016]

Ernst, J. and Theimer, S., (2011) 'Evaluating the effects of environmental education programming on connectedness to nature' Environmental Education Research, 17:5, 577-598.

Evans, B. (2008) 'Geographies of Youth/Young People' Geography Compass 2:5, 1659-1680.

Evans, B. and Colls, R. (2009) 'Measuring fatness, governing bodies: The spatialities of the Body Mass Index (BMI) in anti-obesity politics' Antipode 41:5, 1051-1083.

Evans, J. and Jones, P. (2011) 'The walking interview: methodology, mobility and place' Applied Geography 31: 2, 849-858.

Fingerson, L. (2009) 'Children's bodies', in J. Qvortrup, W. A. Corsaro and M-S Honig (eds.) The Palgrave handbook of childhood studies, London, Palgrave Macmillan, 217-227.

Forest School Association (2011) 'Full principles and criteria for good practice' [Online]. Available from; <http://www.forestschoollassociation.org/full-principles-and-criteria-for-good-practice/> [Accessed 1 November 2015].

Forest School Association (2014) 'History of forest school' [Online]. Available from; <http://www.forestschoollassociation.org/history-of-forest-school/> [Accessed 11 November 2016].

Forest school education (2016) 'Forest schools' [Online]. Available from; <http://forestschooll.com/course-material/forest-schools-general/> [Accessed 23 May 2017].

Foucault, M. (1988) 'Technologies of the self', in L. H. Martin, H. Gutman and P. H. Hutton (eds.) Technologies of the self Amherst, University of Massachusetts Press, 16-49.

Foucault, M. (1991) Discipline and Punish: the birth of a prison London, Penguin.

Foucault, M. (2002a) 'Truth and Juridical forms', in J. Faubion (ed.) Michel Foucault power essential works of Foucault 1954-1984 London, Penguin books, 1-89.

Foucault, M. (2002b) The Order of Things: An Archaeology of the Human Sciences London, Routledge.

Foucault, M. (2002c) 'The subject and power', in J. Faubion (ed.) Michel Foucault power essential works of Foucault 1954-1984 London, Penguin books, 326-348.

Friere, P. (1972) Pedagogies of the oppressed Harmonswoth, Penguin.

Frumkin, H. (2013) 'The Evidence of Nature and the Nature of Evidence' American Journal of Preventive Medicine 44, 196-197.

Fuller, G.W., Tremper, A.H., Baker, T.D., Yttri, K.E. and Butterfield, D. (2014) 'Contribution of wood burning to PM 10 in London' Atmospheric environment 87, 87-94.

Füredi, F. (2004) Therapy culture: cultivating vulnerability in an uncertain age London, Routledge.

Gagen, E. A. (2000) 'Performing gender in America's playgrounds', in S. Holloway and G. Valentine (eds.) Children's geographies: Playing, living, learning Abingdon, Routledge, 184-198.

Gagen, E. A. (2007) 'Reflections of primitivism: development, progress and civilization in imperial America 1898–1914' Children's Geographies 5:1-2, 15-28.

Gagen, E. A. (2016) 'Aging' in N. C. Johnson, R. H. Schein and J. Winders (eds.) The Wiley–Blackwell Companion to Cultural Geography Oxford, Wiley-Blackwell, 250-264.

Gallagher, M. (2009) 'Case study: Researching the Geography of Power in primary school', in J. Davis, M. Gallagher and K. Tisdall (eds.) Researching with Children and Young People: Research Design, Methods and Analysis London, Sage, 57-65.

Gesler, W. M. (1992) 'Therapeutic landscapes: medical issues in light of the new cultural geography' Social science & medicine 34:7, 735-746.

Gesler, W. and Kearns, R.A. (2002) Culture/Place/Health London, Routledge.

Gibson, J. (1979) The ecological approach to visual perception Boston (USA), Houghton Mifflin.

Giddens, A. (1991) Modernity and Self-identity: Self and Society in the late modern age Cambridge, Polity Press.

Gill, T. (2007) No Fear: Growing up in a risk society London, Calouste Gulbenkian Foundation.

Glenn, N. M., Knight, C. J., Holt, N. L. and Spence, J. C. (2013) 'Meanings of play among children' Childhood 20:2, 185-199.

Gorard, S. (2012) 'Who is eligible for free school meals?: characterising FSM as a measure of disadvantage in England' British educational research journal 38:6, 1003-1017.

Gordon, A. (2012) 'Forest schools learning in the great outdoors' [Online]. Available from; <http://www.theguardian.com/teacher-network/gallery/2015/apr/21/forest-schools-learning-great-outdoors-pictures> [Accessed 14th November 2016].

Grahame, K. (1993) Wind in the Willows London, Wordsworth Classics.

Gray, C. and MacBlain, S. (2015) Learning theories in childhood London, Sage.

Gray, M. (2015) 'A systems approach for sustainably reducing childhood diarrheal deaths in developing countries', in K. D. Thomas (eds.) Handbook of Research on Sustainable Development and Economics Hersey (USA), Business Science Reference, 1-20.

Gregson, N. and Crewe, L. (2003) Second-hand cultures Oxford, Berg Publishers.

Grieshaber, S. and McArdle, F. (2010) The trouble with play New York, McGraw-Hill International.

- Guthman, J. (2012) 'Opening Up the Black Box of the Body in Geographical Obesity Research: Toward a Critical Political Ecology of Fat' Annals of the Association of American Geographers 102:5, 951-957.
- Hacking, I. (1991) 'The Self-Vindication of the Laboratory Sciences', in A. Pickering (ed.) Science as Practice and Culture Chicago, University of Chicago Press, 29-64.
- Hamilton, C. (2016) 'The Anthropocene as rupture' The Anthropocene Review 3:2, 93-106.
- Haraway, D. (1991) Simians, cyborgs and women: the reinvention of nature London, Free Association Books.
- Haraway, D. (1997) 'Situated Knowledges: the science question in feminism and the privilege of partial perspective', in L. McDowell and J. Sharpe (eds.) Space, Gender and Knowledge Feminist Readings London, Arnold, 53-72.
- Haraway, D. (2008) When species meet Minnesota, University of Minnesota Press.
- Harden, J. (2012) 'Good sitting, looking and listening: the regulation of young children's emotions in the classroom' Children's Geographies 10:1, 83-93.
- Hardt, M. and Negri, A. (2000) Empire Cambridge (Mass.), Harvard University Press
- Harker, C. (2005) 'Playing and Affective Time-Spaces' Children's Geographies 3:1, 47-62.
- Harrison, C. and Davies, G. (2002) 'Conserving biodiversity that matters: practitioners' perspectives on brownfield development and urban nature conservation in London' Journal of Environmental Management 65:1, 95-108.
- Hartsock, N. (1987) 'The feminist standpoint: Developing the ground for a specifically feminist historical materialism', in S. Harding (ed.) Feminism and methodology Bloomington, Indiana University Press, 157-180.
- Harvey, D. (1992) 'Social Justice, Postmodernism and the City' International Journal of Urban and Regional Research 16:4, 588-601.
- Harvey, D. (1993) 'The nature of environment: dialectics of social and environmental change' Socialist Register 29:29, 1- 51.

Harvey, D. (1996) Justice, nature, and the geography of difference Cambridge (Mass.), Blackwell publishers.

Haylett, C. (2001) 'Illegitimate subjects? Abject whites, neo-liberal modernisation and middle class multiculturalism' Environment and Planning D: Society and Space 19:3, 351-370.

Hemming, P. J. (2007) 'Renegotiating the primary school: children's emotional geographies of sport, exercise and active play' Children's Geographies 5:4, 353-371.

Hendrick, H. (1997) 'Constructions and reconstructions of British childhood: An interpretative survey 1800 to the present', in A. James and A. Prout (ed.) Constructing and Reconstructing Childhood London, Falmer Press, 34-59.

Hinchcliffe, S. and Whatmore, S. (2006) 'Living cities: Towards a politics of conviviality' Special 'Technonatures' issue of Science as Culture 15:3, 123-138.

Hinchcliffe, S. (2007) Geographies of nature: societies, environments, ecologies Los Angeles, Sage.

Hinchcliffe, S., Bingham, N., Allen, J. and Carter, S. (2016) Pathological Lives: Disease, Space and Biopolitics London, Blackwell.

Hodder, I. (2012) Entangled Oxford, Wiley-Blackwell.

Hodgson-Burnett, F. (1911) The Secret Garden London, William Heinemann.

Holdsworth, C. M. and Brewis G. (2014) 'Volunteering, choice and control: a case study of higher education student volunteering' Journal of Youth Studies 17:2, 204-219.

Holdsworth, C., Robinson, J. and Lavery, L. (2017) 'Gender differences in teenage alcohol consumption and spatial practices', Children's Geographies [in print]

Holloway, S. and Valentine, G. (2000) 'Children's geographies and the new social studies of childhood', in S. Holloway and G. Valentine (ed.) Children's Geographies: Playing, Living, Learning Abingdon, Routledge, 1-28.

Holloway, L., Morris, C., Gilna, B. and Gibbs, D. (2009) 'Biopower, genetics and livestock breeding:(re) constituting animal populations and heterogeneous biosocial collectivities' Transactions of the Institute of British Geographers 34:3, 394-407.

Holt, L. (2004a) 'Children with mind-body differences: performing disability in primary school classrooms' Children's Geographies 2:2, 219-236,

Holt, L. (2004b) 'The 'voices' of children: De-centring empowering research relations' Children's Geographies 2:1, 13-27.

Holt, L. (2013) 'Exploring the emergence of the subject in power: infant geographies' Environment and Planning D: Society and Space 31, 645-663.

Hopkins, P. and Pain, R. (2007) 'Geographies of age: thinking relationally' Area 39:3, 287-294.

Hordyk, S.R., Dulude, M. and Shem, M., (2015) 'When nature nurtures children: nature as a containing and holding space' Children's Geographies 13:5, 571-588.

Horton, J. and Kraftl, P. (2006) 'What Else? Some more ways of thinking and doing 'Children's Geographies'' Children's Geographies 4:1, 69-95.

Horton, J. (2008) 'A 'sense of failure'? Everydayness and research ethics', Children's Geographies, 6:4, 363-383.

Horton, J., ChristensenKraftl, P. and Hadfield-Hill, S. (2014) 'Walking ... just walking': how children and young people's everyday pedestrian practices matter' Social & Cultural Geography 15:1, 94-115.

Hultqvist, K. and Dahlberg, G. (2001) 'Governing the child in the new millennium', in K. Hultqvist and G. Dahlberg (eds.) Governing the child in the new millennium London, RoutledgeFalmer, 1-14.

Ingold, T. (2011) The perception of the environment: essays on livelihood, dwelling and skill London, Routledge.

Ingold, T. (2012) 'Looking for lines in nature' EarthLines 3, 48 -51.

Inkpen, R. and Wilson, G. (2013) Science, philosophy and physical geography London, Routledge.

James, A. and James, A.L (2008) Key Concepts in Childhood Studies London, Sage.

James, A., Jenks, C. and Prout, A. (1998) Theorizing Childhood Cambridge, Polity Press.

James, A. and Prout, A. (1997) 'A new paradigm for the sociology of childhood? Provenance, promise and problems', in A. James and A. Prout, (ed.) Constructing and Reconstructing Childhood London, Falmer Press, 7-33.

Jenks, C. (2005) Childhood London, Routledge.

Joint Nature Conservation Committee (2016) 'The UK Post-2010 Biodiversity Framework'[Online]. Available from; <http://jncc.defra.gov.uk/> [Accessed 8 March 2017].

Jupp-Kina, V. (2012) 'What we say and what we do: reflexivity, emotions and power in children and young people's participation' Children's Geographies 10:2, 201-218.

Karsten, L. (2005) 'Generations on Continuity and Change in Urban Children's Daily Use of Space', Children's Geographies 3:3, 275-290.

Kendle, A.D. and Rose, J.E. (2000) 'The aliens have landed! What are the justifications for 'native only' policies in landscape plantings?' Landscape and urban planning 47:1, 19-31.

Kesby, M. (2000) 'Participatory diagramming: deploying qualitative methods through action research epistemology' Area 32:4, 423-435.

Kindon, S., Pain, R. and Kesby, M. (2007) 'Participation as a form of power', in Kindon, S., R. Pain and M. Kesby (eds.) Participatory action research approaches and methods: connecting people, participation and place London, Routledge, 19-25.

Kirby, P. and Woodhead, M. (2003) 'Children's Participation in Society', in H. Montgomery, R. Burr and M. Woodhead (eds.) Changing Childhoods, local and global Chichester, John Wiley and Sons Ltd.

Kjørholt, A. T. (2003) "'Creating a space to belong': girls' and boys' hut-building as a site for understanding discourses on childhood and generational relations in a Norwegian community' Children's Geographies 1, 261-279

Klob, D. (1984) Experiential Learning: experience as the source of learning and development Englewood Cliffs (US), Prentice Hall.

Knight, S. (2011a) Risk and adventure in Early years outdoor play: Learning from Forest school Sage, London.

Knight, S. (2011b) Forest School for all New York, Sage.



- Knight, S. (2013) International perspectives forest school London, Sage.
- Kraftl, P. (2013a) Geographies of alternative education Bristol, Policy Press.
- Kraftl, P. (2013b) 'Beyond 'voice', beyond 'agency', beyond 'politics'? Hybrid childhoods and some critical reflections on children's emotional geographies', Emotion, Space and Society 9, 13-23.
- Kristeva, J. (1982) Powers of Horror: An Essay on Abjection New York, Columbia University Press.
- Kuhn, T. S. (1970) The structure of scientific revolutions Chicago, University of Chicago Press.
- Kusenbach, M. (2003) 'Street phenomenology the go-along as ethnographic research tool' Ethnography 4:3, 455-485.
- Langevang, T. (2007) 'Movements in Time and Space: Using Multiple Methods in Research with Young People in Accra, Ghana' Children's Geographies 5:3, 267–281.
- Laporte, D. (2000) History of Shit Cambridge (Mass.), MIT Press.
- Latour, B. (1987) Science in action: How to follow scientists and engineers through society Massachusetts, Harvard University Press.
- Latour, B. (2004) Politics of nature How to bring the sciences into democracy Massachusetts, Harvard University Press.
- Latour, B. (2005) Reassembling the Social: An Introduction to Actor-Network-Theory Oxford, Oxford University Press.
- Laurier, E. and Philo, C. (1999) 'X-morphising: a review essay of Bruno Latour's 'Aramis or the love of technology' Environment and Planning A 31:6, 1047-1071.
- Law, J. (1992) 'Notes on the theory of the actor-network: Ordering, strategy, and heterogeneity' Systems practice 5:4, 379-393.
- Ling, J. (2012) 'Saving childhoods in the forest' The Guardian, 28 June, 2012.

Linzmayr, C. D., Halpenny, E. A. and Walker G. J. (2014) 'A Multidimensional Investigation into Children's Optimal Experiences with Nature' Landscape Research, 39:5, 481-501.

Linzmayr, C.D. and Halpenny, E.A. (2014) 'I might know when I'm an adult': making sense of children's relationships with nature' Children's Geographies 12:4, 412-428.

Longhurst, R. (2001) Bodies: exploring fluid boundaries London, Routledge.

Longhurst, R., Johnston, L., and Ho, E. (2009) 'A visceral approach: cooking 'at home' with migrant women in Hamilton, New Zealand' Transactions of the Institute of British Geographers 34:3, 333-345.

Lorimer, J. (2014) 'On Auks and Awkwardness' Environmental Humanities, 4:1, 195-205.

Lorimer, J. (2015) Wildlife in the Anthropocene: Conservation after nature University of Minnesota Press, Minneapolis.

Lorimer, J. (2017) 'Probiotic Environmentalities: Rewilding with Wolves and Worms' Theory, Culture & Society 0:0, 1-22.

Louv, R. (2005) Last child in the wood: Saving our children from Nature-Deficit Disorder New York, Algonquin Books.

Louv, R. (2011) The Nature Principle New York, Algonquin Books.

MacNaughton, G. (2005) Doing Foucault in Early Childhood studies, applying post structural ideas London, Routledge.

Macrae, F. (2012) 'How keeping children to clean wrecks their immune system' The Daily Mail, 22 March 2012.

Madaleno, I. M. (2010) 'How Do Remote Southern Hemisphere Residents Perceive the World? Mental Maps Drawn by East Timorese and Mozambican Islanders' Scottish Geographical 126:2, 112-136.

Malone, K. (2015) 'Theorizing a child-dog encounter in the slums of La Paz using post-humanistic approaches in order to disrupt universalisms in current 'child in nature' debates' Children's Geographies 14:4, 1-18.

Malone, K. (2016) 'Posthumanist Approaches to Theorizing Children's Human-Nature Relations. Space, Place, and Environment', in C. Taylor and C. Hughes (eds.) Posthuman Research Practices in Education Basingstoke, Palgrave Macmillan, 185-206.

Matless, D., Merchant, P. and Watkins, C. (2005) 'Animal Landscapes: otters and wildfowl in England 1945-1970' Transactions of the Institute of British Geographers 30:2, 191-205.

Marshall, P. (2005) Mystical encounters with the natural world. Experience and explanations Oxford, Oxford University Press.

Martusewicz, R. and Edmundson, J. (2004) 'Social Foundations as Pedagogies of Responsibility and Eco-Ethical Commitment', in B. Butin (ed.) Teaching Context: A Primer for the Social Foundations of Education Classroom, New Jersey, Lawrence Erlbaum Publishers, 71-92.

Mayall, B (2000) 'Conversations with children: working with generational issues', in P. Christensen and A. James (ed.) Research with Children: Perspectives and Practices Falmer Press, London, 120-135.

Maynard, T. (2007) 'Forest Schools in Great Britain: an initial exploration' Contemporary Issues in Early Childhood 8:4, 320-331.

McKenzie, J. (2001) Perform – Or Else: From Discipline to Performance New York, Routledge.

McKibben, B. (1990) The End of Nature London, Penguin

Meah, A. (2014) 'Reconceptualising power and gendered subjectivities in domestic cooking spaces' Progress in Human Geography 38:5, 671-690.

Meek, R. (2008) 'Young People, Social Exclusion and Inter-Generational Tension in a Rural Somerset Town' Children & Society 22:2, 124-135.

Melo-Escihvela, C. (2008) 'Promoting ecological citizenship: Rights, duties and political agency' ACME An International E-Journal for Critical Geographies 7:2, 113-134.

Miller, D. (2000) Citizenship and National Identity Cambridge, Polity Press.

Milligan, C. and Bingley, A. (2007) 'Restorative or scary spaces? The impact of woodland on the mental well-being of young adults' Heath & Place 13, 799-811.

Milligan, C., Gatrell, A. and Bingley, A.F. (2004) '“Cultivating health”: therapeutic landscapes and older people in northern England' Social Science & Medicine 58:9, 1781-1793.

Milton, K. (2002) Loving Nature: Towards an ecology of Emotion London, Routledge.

Mitchell, F.J.G. (2005) 'How open were European primeval forests? Hypothesis testing using palaeoecological data' Journal of Ecology 93:1, 168-177.

Monbiot, G. (2012) 'If children lose contact with nature they won't fight for it', The Guardian, 19 November, 2012.

Monbiot, G. (2013) Feral: searching for enchantment on the frontiers of rewilding London, Allen Lane.

Monbiot, G. (2013) 'The problem with education? Children aren't feral enough', The Guardian, 7 October, 2013.

Montessori, M. (1965) The Montessori Method: scientific pedagogy as applied to child education in 'The children's houses' Cambridge (Mass.), Robert Bentley.

Morpurgo, M. (2012) Fox friend Edinburgh, Barrington Stoke.

Morpurgo, M. (2016) The fox and the ghost king London, Harper-Collins Publishers.

Morpurgo, M. (2017) Little foxes London, Egmont.

Nash, C. (2000) 'Performativity in practice: Some recent work in cultural geography' Progress in Human Geography 27:5, 637-648.

National Health Service (2015) 'Are we too clean for our own good?' [Online]. Available from; <http://www.nhs.uk/livewell/homehygiene/pages/are-we-too-clean-for-our-own-good.aspx> [Accessed 16 November 2015].

National Trust (2012) 'Reconnecting children with nature: Findings of the Natural Childhood Inquiry' [Online]. Available from;

<http://www.nationaltrust.org.uk/servlet/file/store5/item973799/version1/NT%20Natural%20Childhood%20Booklet.pdf> [Accessed 23<sup>rd</sup> January 2014].

National Trust (2012) 'Natural Childhood' [Online]. Available from; <http://www.nationaltrust.org.uk/document-1355766991839/> [Accessed 19<sup>th</sup> July 2016].

Natural England (2009) Childhood and Nature: a survey on changing relationships with nature across generations Warboys (Cambridgeshire), England Marketing.

Nordtømme, S. (2012) 'Place, space and materiality for pedagogy in a kindergarten' Education Inquiry 3:3, 317-333.

O'Brien, L. and Murray, R. (2006). A marvellous opportunity for children to learn: a participatory evaluation of Forest School in England and Wales Farnham, Forest Research.

Office of National Statistics (ONS) (2013) 'Census 2011- Summary of key statistics' [Online]. Available from; <http://www.sandwelltrends.info/lisv2/navigation/keystats.asp> [Accessed 20 June 2015].

Oldfield, A. (1990) Citizenship and community: civic republicanism and the modern world London, Routledge.

Olsson, L.M. (2009) Movement and experimentation in young children's learning: Deleuze and Guattari in early childhood education London, Routledge.

Oswell, D. (2013) The agency of children: from family to global human rights Cambridge, Cambridge University Press.

Pacini-Ketchabaw, V., Taylor, A. and Blaise, M. (2016) 'Decentring the Human in Multispecies Ethnographies', in C. Taylor and C. Hughes (eds.) Posthuman Research Practices in Education, Basingstoke, Palgrave Macmillan, 149-167.

Palmer, S. (2007) Toxic childhood: how the modern world is damaging our children and what we can do about it London, Orion.

Pain, R. (2004) 'Social Geography: participatory research' Progress in Human Geography 28:5, 652-663.

Park, O., Davidson, T. K. and Shields, R. (2011) 'Introduction' in T. K. Davidson, O. Park and R. Shields (eds.) Ecologies of affect: placing nostalgia, desire and hope Waterloo, Wilfrid Laurier University Press, 1-15.

Parr, J. (2010) Sensing Changes: Technologies, Environments, and the Everyday, 1953–2003 Vancouver, The University of British Columbia Press.

Persil (2015) 'Why is dirt good for kids?' [Online]. Available from; <https://www.persil.co.uk/why-dirt-is-good/> [Accessed 26 November 2016].

Philo, C. and Wilbert, C. (2000) 'An introduction', in C. Philo and C. Wilbert (eds.) Animal spaces, beastly places: new geographies of human-animal relations London, Routledge, 1-34.

Pike, J. (2008) 'Foucault, space and primary school dining rooms' Children's Geographies 6:4, 413-422.

Pooley, C., Turnbull, J. and Adams, A. (2005) 'The journey to school in Britain since the 1940s: continuity and change' Area 37:1, 43-53.

Popkewitz, T. (2000) Paradigm and Ideology in Educational Research London, Falmer Press.

Porter, G., Townsend, J. and Hampshire, K. (2012) 'Children and young people as producers of knowledge' Children's Geographies 10:2, 131-134.

Preston, L. (2012) 'Changing green subjectivities in outdoor and environmental education: a qualitative study' Discourse: Studies in the Cultural Politics of Education 33:2, 235-249.

Prout, A. (2005) The Future of Childhood: Towards the Interdisciplinary Study of Children London, Falmer Press.

Prudham, S. (2003) 'Taming Trees: Capital, Science, and Nature in Pacific Slope Tree Improvement' Annals of the Association of American Geographers 93:3, 636-656.

Pyne, S. (1997) World Fire: The Culture of Fire on Earth Washington, The University of Washington Press.

Pyšek, P, Richardson, D.M., Pergl, J., Jarošík, V., Sixtová, Z. and Weber, E. (2008) 'Geographical and taxonomic biases in invasion ecology' Trends in Ecology and Evolution 23:5, 237-244.

Punch, S. (2002) 'Research with children The same or different from research with adults?' Childhood 9:3, 321-341.

Qvortrup, J. (2009) 'The development of childhood', in J. Qvortrup, K. Brown Rosier, and D. A. Kinney (eds.) Structural, Historical, and Comparative Perspectives Bingley (Yorkshire), Emerald Group Publishing Limited, 1-26.

Rautio, P. (2013a) 'Children who carry stones in their pockets: on autotelic material practices in everyday life' Children's Geographies 11:4, 394-408.

Rautio, P. (2013b) 'Being Nature: Interspecies Articulation as a Species-Specific Practice of Relating to Environment' Environmental Education Researcher 19:4, 445-457.

Richardson, D.M., Pyšek, P., Simberloff, D., Rejmánek, M. and Mader A.D. (2008) 'Biological invasions- the widening debate: a response to Charles Warren' Progress in Human Geography 32:2, 295-298.

Richardson, M., Sheffield, D., Harvey, C. and Petronzi, D., (2016) The Impact of Children's Connection to Nature: A Report for the Royal Society for the Protection of Birds (RSPB) [Online]. Available at: <http://www.rspb.org.uk/our-work/our-positions-and-campaigns/positions/education/research/connection-to-nature.aspx> [Accessed 19 May 2017]

Riley, M. (2010) 'Emplacing the research encounter: exploring farm life histories' Qualitative Inquiry 16:8, 651-662. Rose, N.S. (1999) Governing the soul: the shaping of the private self London, Free Association Books.

Rutherford, S. (2007) 'Green Governmentality insights and opportunities in the study of nature's rule' Progress in Human Geography, 31:3, 291–307.

Schama, S. (1995) Landscape and memory London, Vintage books.

Seaward, B.L. (2013) Managing stress Burlington (USA), Jones & Bartlett Publishers.

Shildrick, M. (1997) Leaky bodies and boundaries: Feminism, postmodernism and (Bio)ethics London, Routledge.

Shove, E. and Pantzar, M., (2005) 'Consumers, Producers and Practices Understanding the invention and reinvention of Nordic walking', Journal of consumer culture, 5:1, 43-64.

Shove, E., Watson M., Hand M. and Ingram, J. (2007) The Design of Everyday Life Oxford, Berg.

Sigsgaard T., Forsberg, B., Annesi-Maesano, I., Blomberg, A., Bølling, A., Boman, C., Bønløkke, J., Brauer, M., Bruce, N., Héroux, M.E. and Hirvonen, M.R. (2015) 'Health impacts of anthropogenic biomass burning in the developed world' European Respiratory Journal 46:6, 1577-1588.

Silverman, D. (2011) Interpreting qualitative data: a guide to the principles of qualitative research London, Sage.

Skelton, T. (2001) 'Cross-cultural research: issues of power, positionality and race', in M. Limb and C. Dwyer (eds.) Qualitative Methodologies for Geographers London, Arnold, 87-100.

Skeggs, B. (1997) Formations of Class and Gender London, Routledge.

Skeggs, B. (2004) Class Self and Culture London, Routledge.

Smith, L. (2013) 'Geographies of environmental restoration: a human geography critique of restored nature' Transactions of the Institute of British Geographers 38:2, 354-358.

Smith, N. (2008) Uneven Development. Nature capital and the production of space Athens, University of Georgia Press.

Sparavigna, A. (2011) 'Lines under the forest'[Online]. Available from; <http://arxiv.org/abs/1105.5277?> [Accessed 16 January 2013].

Stiegler, B. (2010) Taking Care of Youth and the Generations Redwood, Stanford University Press.

Srinivasan, K. (2013) 'The biopolitics of animal being and welfare: dog control and care in the UK and India' Transactions of the Institute of British Geographers 38:1, 106-119.

Szerszynski, B., Heim, W. and Waterton, C. (2004) 'Introduction', in B. Szerszynski, W. Heim. and C. Waterton (eds.) Nature performed: environment, culture and performance Oxford, Blackwell Publishing, 1-14.



- Taylor, A. (2011) 'Reconceptualizing the 'nature' of childhood' Childhood 18:4, 420-433.
- Taylor, A. (2013) Reconfiguring the natures of childhood London, Routledge.
- Taylor, A. and Pacini-Ketchabaw, V. (2016) 'Kids, raccoons, and roos: awkward encounters and mixed affects' Children's Geographies, 1-15.
- Tisdell, E.J. (1999) Women Teaching for Social Change in Adult Education: The Spiritual and Cultural Dimensions of "Teaching Across Borders" Kansas, New Prairie Press.
- Thomson, F. (2007) 'Are Methodologies *for* Children keeping *them* in their Place?' Children's Geographies 5:3, 207-218.
- Thomson, J.L. and Philo, C. (2004) 'Playful spaces? A social geography of children's play in Livingston, Scotland' Children's Geographies 2:1, 111-130.
- Thomson, S. (2005) 'Territorialising the primary school playground: deconstructing the geography of playtime' Children's Geographies 3:1, 63-78.
- Thornton Moore, D. (2010) 'Forms and Issues in Experiential Learning' C.M Welhberg (ed.) New directions for teaching and learning Oxford, Wiley, 1-13
- Thrift, N. (2003) 'Performance and ...' Environment and Planning A 35:11, 2019-2024.
- Thrift, N. (2007) Non-Representational Theory: Space, Politics, Affect London, Routledge.
- Tipper, B. (2011) 'A dog who I know quite well': everyday relationships between children and animals' Children's Geographies, 9:2, 145-165.
- Twine, R. (2010) Animals as biotechnology: Ethics, sustainability and critical animal studies London, Earthscan.
- Tyler, T. (2009) 'The Case of the Camel', in T. Tyler and M. Rossini (eds.) Animal Encounters Leiden (Netherlands), Brill publishers, 1-9.

UNICEF (2012) 'United Nations Convention on the Rights of the Child (UNCRC)'. [Online] Available from; [http://www.unicef.org.uk/Documents/Publication-dfs/betterlifeleaflet2012\\_press.pdf](http://www.unicef.org.uk/Documents/Publication-dfs/betterlifeleaflet2012_press.pdf) [Accessed 22nd October 2016].

UNICEF (2014) 'Water, Sanitation and Hygiene'[Online]. Available from; [http://www.unicef.org/media/media\\_45481.html](http://www.unicef.org/media/media_45481.html) [Accessed 2 November 2015].

Urry, J. (2000) Sociology beyond societies: mobilities for the twenty-first century London, Routledge.

Valentine, G. (2000) 'Exploring children and young people's narratives of identity' Geoforum 31:2, 257-267.

Valentine, G. (2003) 'Boundary crossings: transitions from childhood to adulthood' Children's Geographies 1:1, 37-52.

Valentine, G. (2008) 'The ties that bind: towards geographies of intimacy' Geography Compass 2:6, 2097–2110.

Vanderbeck, R. M. (2007) 'Intergenerational Geographies: Age Relations, Segregation and Re-engagements' Geography Compass 1: ,200–221.

Vanderbeck, R. M. (2008) 'Reaching critical mass? Theory, politics, and the culture of debate in children's geographies' Area 40:3, 393-400.

Vigarello, G. (2008) Concepts of Cleanliness Changing Attitudes in France since the Middle Ages Cambridge, Cambridge University Press.

Villanueva, K., Giles-Corti, B., Bulsara, M., McCormack, G.R., Timperio, A., N. Middleton, B. Beesley and G. Trapp (2012) 'How far do children travel from their homes? Exploring children's activity spaces in their neighbourhood' Health & Place 18:2, 263-273.

von Benzon, N. (2016) "'Cos its like lots of people what are naughty": Exploring Learning Disabled Young People's Avoidance of Urban Parks in Manchester', in A. M. F. Murnaghan and L. J. Shillington Children, Nature, Cities London, Routledge, 75-91.

Vygotsky, L. S. (1978) Mind in society: The development of higher mental processes Cambridge (Mass.), Harvard University Press.

Wake, S.J. (2008) “In the best interests of the child’: juggling the geography of children's gardens (between adult agendas and children's needs)’ Children's Geographies 6:4, 423-435

Wapner, P. (2010) Living through the end of nature: The Future of American Environmentalism Cambridge (Mass.), MIT press.

Waters, J. and Maynards, T. (2010) “What's so Interesting Outside? A Study of Child-Initiated Interaction with Teachers in the Natural Outdoor Environment” European Early Childhood Education Research Journal 18:4, 473-483.

Watson, C. (2010) ‘Educational inclusion and the control society in Scotland’ Discourse 31: 1, 93-104.

Watts, A. (2013) Outdoor Learning through the Seasons: An Essential Guide for the Early Years Abingdon, Routledge.

Ward, L. (2015) ‘The forest school revolution: leaves, logs and life skills’, The Guardian, 21 April, 2015.

Warren, C.R. (2007) ‘Perspectives on the ‘alien’ versus ‘native’ species debate: a critique of concepts, language and practice’ Progress in Human Geography 31:4, 427-446.

Weal, S. (2016) ‘Child mental health crisis ‘worse than expected’’, The Guardian, 29 April, 2016.

Webb, D.A. (1985) ‘What are the criteria for presuming native status?’ Watsonia 15:3, 231-236.

Weisberg, Z. (2009) ‘The Broken Promises of Monsters: Haraway, Animals and the Humanist Legacy’ Journal for Critical Animal Studies 7:2, 21-61.

Whatmore, S. (2002) Hybrid geographies: Nature, cultures, spaces London, Sage.

White, A., Bushin, N., Carpena-Méndez, F. and Laoire, C.N. (2010) ‘Using visual methodologies to explore contemporary Irish childhoods’ Qualitative Research 10:2, 143-158.

Wild Thing Network (2015) ‘Blog posts’ [Online]. Available from; <http://v1.projectwildthing.com/posts/tag/16> [Accessed 12 October 2015].

Williams-Sieghfredsen, J. (2011) Understanding the Danish Forest School Approach: Early Years Education in Practice Florence (USA), Taylor & Francis

Wiltshire County Council (2014) 'Wiltshire outdoor play project case studies' [Online]. Available from; <http://www.wiltshire.gov.uk/outdoor-play-project-case-studies.pdf> [Accessed 15 August 2016]

Winnicott, D.W. (1971) Playing and reality London, Routledge.

Woodyer, T. (2008) 'The body as research tool: embodied practice and children's geographies' Children's Geographies 6:4, 349-362.

Woodyer, T., Martin, D. and Carter, S. (2015) 'Ludic geographies', in B. J. Evans, J. Horton and T. Skelton (eds.) Play, recreation, health and well being Singapore, Springer, 1-18.

Wonderland. Episode 8, 'Children who play with fire' BBC 2. 15 June 2011. 2100hrs.

Wyness, M. (2006) Childhood and Society: An Introduction to the Sociology of Childhood Basingstoke, Palgrave Macmillan.

Yarwood, R. (2014) Citizenship London, Routledge.