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Going to the farm: A sociomaterial ethnography of autistic young people in a natural environment

Alison Oldfield

A dissertation submitted to the University of Bristol in accordance with the requirements for award of the degree of Doctor of Philosophy in the Faculty of Social Sciences and Law

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Abstract

This study sits at the intersection of three areas – autism, youth, and the natural environment. Autism is a contested phenomenon, where dominant accounts of it as a deficit-oriented condition are challenged by perspectives that call for acceptance of ‘neurodiversity’ and a valuing of the richness of autistic lives. There is simultaneously a growing call to re-orient and strengthen human – and especially children’s and young people’s -- relationships with natural environments, relationships that are seen to be beneficial and important, yet simultaneously diminishing. The role of education is implicated in both these areas of debate, but little attention has been given to what happens when these converge and autistic young people are supported by schools to spend time in a natural environment.

This study occupies that space. This is a ten-month ethnographic study that examined encounters of four autistic young people in a post-16 class from a UK special school that regularly spent time visiting a local farm. In conducting this study, I drew on theoretical resources from sociomaterial approaches, in particular from Annemarie Mol’s concept of ‘multiplicity.’ In line with these approaches, I examined the sociomaterial practices in and around these encounters at the farm and how these practices enacted autism and the farm environment. I suggest an understanding of autism-in-relation where autism emerges in the ways it is practiced in dynamic environments, rather than as something located inside an individual. Findings from the study are threefold. First, I suggest that visits to the farm environment enabled new practices for these young people, including: increased visibility and tangible interaction with the natural world; opportunities to adapt to evolving places within structured routines; and shared moments of common experiences. Second, I demonstrate how multiple versions of autism (specifically, routinised, emergent, extrasensory, and deficient autisms) were enacted through sociomaterial practices and co-emergent with different versions of the farm environment. Last, I propose that pedagogical practices that are attendant to relations among people, things, and places and that also accommodate uncertainty within routine could support ways to notice, value, and learn from autistic young people’s own ways of becoming in the world. This in turn could also have wider implications in supporting young people’s transitions to the ‘outside’ world beyond school.

Dedication and acknowledgements

I would first like to acknowledge the University of Bristol for the PhD studentship I received, without which I would not have been able to take up the opportunity.

I am deeply grateful to participants in both schools in this study. Thank you to the young people and teaching staff in particular for giving generously of your time and welcoming me into your classes. I have learned much from all of you.

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Author's Declaration

I declare that the work in this dissertation was carried out in accordance with the requirements of the University's *Regulations and Code of Practice for Research Degree Programmes* and that it has not been submitted for any other academic award. Except where indicated by specific reference in the text, the work is the candidate's own work. Work done in collaboration with, or with the assistance of, others, is indicated as such. Any views expressed in the dissertation are those of the author.

SIGNED: ...Alison Oldfield..... DATE:....Mar 24 2020.....

Students must sign the examination copies but should only print their name in the final version that they electronically submit so that no personal signifiers are shown in the online release of the dissertation.

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Abbreviations

ABA	Applied Behavioural Analysis
ADHD	Attention deficit hyperactivity disorder
ANT	Actor network theory
ASC	Autism spectrum condition
ASD	Autism spectrum disorder
ASDAN	Award Scheme Development and Accreditation Network
DSM	Diagnostic and Statistical Manual for Mental Disorders
EHCP	Education, Health and Care Plan
HLTA	High-level teaching assistant
ICD	International Classification of Diseases
PECS	Picture exchange communication system
TEACCH	Treatment and Education of Autistic and Related Communication Handicapped Children

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Chapter 1: Introduction

It was at the end of my first visit to the farm, and I was standing next to the barn with the group of young people and the support staff they had come with. I felt a slight tug on my down jacket and looked over to see that Ali,¹ one of the young people, had plucked a small, white feather from my jacket. I watched as he proceeded to pull the feather carefully apart into multiple pieces, blowing each small tuft of feather fluff into the air. As each one flew into the air, he waved his hands, generating movement in the air that took the feather fluff further into flight. He watched each piece fly off. It was the first one-to-one interaction I'd had with this young person all day. But there was no acknowledgement of me, bar my escaping feather. Or rather, in this instance and to Ali, I was my feather.

- *Vignette from this study of a field work session at the farm*

This vignette introduces the space this study occupies. It depicts Ali, an autistic² young participant in this study, in his relations with material things in the world. In this study, I examine and bring to the fore such encounters between autistic people and material as well as social worlds. This attention runs counter to much contemporary discussion and research around autism, which is more regularly associated with deficits in social communication and behaviour, as seen in the diagnostic criteria of social and communication difficulties, as well as narrow interests and/or repetitive behaviours (Baron-Cohen et al 2009).³ This study examines the wider range of relations that four autistic young people have on regular outdoor visits to a farm – not just with classmates and teachers, but also

¹ All names of research participants and places have been anonymised in this thesis.

² Language is important, performative and can be contentious, particularly in relation to disability. Kenny et al (2015) found that there is not a single preferred way to describe autism across all autism communities. In this thesis I will primarily use 'identity-first' language ('autistic person') rather than 'person-first' ('a person with autism'). I do this in recognition that while person-first language is often used by professionals, research suggests that many autistic people prefer identity-first language (Kenny et al 2015).

³ Diagnoses of autism are based on criteria set out in two manuals: the International Classification of Diseases, eleventh edition (ICD-11) released in 2018, which is maintained by the World Health Organisation, and the Diagnostic and Statistical Manual, fifth edition (DSM-V) released in 2013, which is published by the American Psychiatric Association. While the ICD is more commonly used in the UK to support diagnoses, criteria in its most recent edition closely aligns with that in the DSM-V.

with plants, polytunnels, mud, welly boots, and feathers. Manning and Massumi (2014, p.4) suggest that an autistic form of perception is 'neither a rejection of the human, nor a turning away from relation. What we hear is an engagement with the more-than-human.' This study attempts to pay attention to that engagement, in the process examining what autism is in these relations and encounters with a natural environment.

1.1 Setting the scene of the study

This study has developed out of a convergence of my professional and personal experiences as a teacher, youth worker, and outdoor enthusiast, as well as growing research interests as an early career academic. My first significant encounter with autism was with young people in a participatory, rights-based youth project I managed 15 years ago. The project worked with disabled young people to develop inclusive youth and leisure services in their local area. Through this experience, I recognised the ways different environments excluded ordinary participation in the world for many disabled young people. This included those with autism, who themselves had unique ways of experiencing those worlds.

My relationship with the natural world started long before that. From the age of 8, I grew up living in the woods in a small town in Michigan, USA. I not only watched and learned about the seasons of the trees, woodland, and wildlife, but I lived them. Being in the natural environment, where knowing it was part of my everyday life, has deeply shaped me and I have grown increasingly curious about how this early relationship has influenced me as a person now living far from those woods.

This study began then with an interest in the relationship between the two. What might the natural outdoor world offer to autistic young people, whose ways of experiencing the world may be different to my own (Evans 2018; Milton 2012) and who also often have limited opportunities to participate in such worlds (Von Benzon 2011)? Upon starting my studies, this interest deepened as I grew closer to debates in related research fields. I, like others working in this area (Hollin 2017; Solomon

2010), was intrigued by the contradictions in autism – its increase in diagnosis rates and attention in the public eye combined with a lingering uncertainty about its genesis and manifestations. This began to merge with my longstanding interest in the role of natural environments for learning and well-being, which became more salient for me as I began to raise children of my own. I was particularly struck by a Natural England report by Blakesley et al (2013, p.4) that examined the possible benefits of the natural environment for children and young people with autism and found the existing evidence to be ‘very limited.’ I was curious that little scholarship or practice was visibly happening that brought autism, youth, and natural environments together. Given the suggestion that autistic people may sense and experience the world differently, what might outdoor natural environments offer for autistic children and young people?

1.2 Introducing autism

Autism is contentious and is a phenomenon that is characterised by discord and debate on many levels. Much academic and public discussion has centred around what autism is in physical, biomedical terms, what causes it, and how it should be ‘treated,’ issues that yet remain uncertain (Hollin 2017). But understandings of autism – and who gets a say in how these understandings develop – have been developing in recent years at a rapid pace. Questions have emerged about whether the differences in autistic people should be seen as disorders that require ‘treatment’ at all (Silberman 2015; Fletcher-Watson and Happé 2019). These debates between curing/treating autism or accepting autistic people’s ‘neurodiversity’ raise deep questions about ‘normal’ human development. As Solomon (2010, p.242) states, ‘probably more than any other clinical category in Euro-American post-WWII history, autism ... reaches in contradictory and unexpected ways to the very core of what it means to be human.’

Regardless of how it is defined or understood, the outcomes for autistic people in contemporary society are disturbing. Disabled people in Western society are regularly excluded or marginalised from mainstream society (Oliver 1996), and this is

reportedly often the case for autistic people too. Take, for example, recent evidence about autistic young people's reported outcomes. Employment and educational opportunities after secondary school are generally poor for those with ASD diagnoses (Shattuck et al 2012); educational experiences often lack sufficient support or understanding (National Autistic Society 2017); and there is often a loss of support services in the transitions from school to adulthood (Smith et al 2012). More recently, autistic people have also been reported to have a higher risk of mental health issues and suicidality than non-autistic people, while at the same time adults and young people with autism report difficulties in accessing appropriate mental health support (Crane et al 2019; Camm-Crosbie et al 2018).⁴ Given this context, while much remains uncertain about autism, there is an increasing need to better understand autistic people's lives and how to best support them to flourish in the world (Pellicano et al 2018; Fletcher-Watson and Happé 2019). Research around autism tends to be dominated by its psychological and cognitive neuroscientific aspects (Milton 2012), and there is also a need for other stories about autism and autistic people's lives to be told (Pellicano et al 2018).

1.3 Young people in the natural environment⁵

It has long been suggested that spending time in natural spaces can be beneficial for people's health, wellbeing and learning (Von Benzon 2011; Pearson and Craig 2014; Rickinson et al 2004; Dillon and Dickie 2012; Faber Taylor and Kuo 2006). This has particularly been the case for children and young people, who are often considered to have a 'natural affinity or connection with nature' (Taylor 2013, p.xiii). Recently, there have been growing concerns in Western society that children and young people are becoming increasingly disconnected from natural environments, and that this disconnection is worrisome and detrimental. This is most notably seen in

⁴ Links between autism and mental health are also under-researched (Camm-Crosbie et al 2018).

⁵ What 'natural environment' means is discussed in more depth at the start of Chapter 2, but it is worth briefly defining here. The concepts of 'natural environment' and its close relative 'nature' are historically complex, but for the purposes of this study, a 'natural environment' is a physical place with natural features and processes, including flora and fauna as well as non-living qualities like air, water, weather, and soil (Hartig et al 2014). I also recognise that a 'natural' environment is not necessarily untouched wilderness but is also often shaped and maintained by humans, as is the case with the farm in this study.

Richard Louv's (2005) pronouncement of a 'Nature Deficit Disorder' facing modern childhood and society in his book *Last Child in the Woods*. Louv's concerns about children's current lack of connection to natural worlds has some evidence base in declining amounts of time that children and young people report spending in these environments (Natural England 2009; Natural England 2019). These concerns are partly predicated on assumptions that spending time in natural environments is inherently beneficial, while others argue that encounters in these environments are multi-faceted and shaped by many factors (Taylor 2013; Lea 2008; Dillon et al 2006). Educational environments are often the site of interventions that try to reconnect children and young people back to 'natural' environments (Dillon et al 2006; Natural England 2016a; DEFRA 2011). However, these experiences are also highly variable and dependent on aspects like funding, resources, perceptions of risk, knowledge, and education sector changes (Dillon et al 2006). Particularly relevant to this study, little research has examined what these encounters are like for disabled – and, specifically, autistic – young people (Blakesley et al 2013).

1.4 Explaining my study

This research builds a line of inquiry that draws these areas together – what happens when autistic young people have school-enabled experiences in a natural environment? In the process of developing this study, I began to recognise that the phenomena under study – autism, youth, natural environments – were all contested ideas that stretched across different fields. But, as I myself experienced, they are often treated as if they are stable and discrete. For example, in the course of doing this doctoral study, I was often asked, 'What is your PhD about?' In an effort to make the topic accessible, I honed the description of my research down to a pithy if simplistic summary: 'autistic young people and outdoor learning.' This description regularly invited follow up questions about the relationship between these two things: 'Is there any benefit?' 'What is the impact?' 'Is it good?' 'Is it bad?' But it was, of course, not so straightforward. What I came to realise was that in the process of simplifying the description, I had also mischaracterised it entirely. As I developed my understanding of existing knowledge in these fields and the contested meanings of

these phenomena, I also began to align with a sociomaterial theoretical framing. Seeing these entities as discrete and separate ones became more and more problematic. I realised I was not looking at ‘autism’ and the ‘natural environment’ as if they were separate from each other, as if autism was something held inside a person and the natural environment was a backdrop in which human action took place, as if there was a guaranteed outcome from their meeting. Instead, I was interested in examining these phenomena *in their emergent relations* and in how they came to be through those relations. In my short description, I had treated them as separate entities because this was what I assumed would make sense to others. I also now realise that similar assumptions were deeply held within me. Trying to focus on the *relations* that enacted autism and a natural environment and, in the process, questioning what those things were in the first place did not come ‘naturally.’

This study therefore attempts to disrupt assumptions about what might be seen as ‘givens’ around autism and natural environments. It does this by taking a sociomaterial approach that sees the world as emergent through social and material relations and practices instead of a human-centric one, where humans and ‘nature’ are separate entities that develop each to their own. I suggest that these entities are actually complex entanglements that cannot be fully examined as isolated phenomena. Inspired by Annemarie Mol in her ethnographic account of atherosclerosis in *The Body Multiple* (2002), I have examined autism by looking at how it is *practiced* and *enacted* in a particular environment. Instead of examining autism in relation to ‘typical’ development or individual behaviour, I set out to observe how it is *done* in the everyday and at-times mundane activities in and around the farm visits. This is not a study that then aims to understand ‘autism’ and ‘natural environment’ as if they are two discrete things that are separate from each other and have a cause-effect relationship. It is instead a study of how these two phenomena co-emerge and how they are enacted through practices involving both people and things – like plants, young people, polytunnels, teachers, rain, spades, and feathers – in their encounters in and around a farm.

1.5 Aims and overview of the study

The overall aims of this study were to understand 1) what happens when autistic young people are supported by schools to spend time in a natural environment of a farm and 2) how autism is enacted in and around this natural environment. The young people participating in the study were four autistic students in a post-16 class in an UK special school⁶, and the 'natural environment' was a local farm that this class visited nearly every week. In pursuit of these aims, I took an ethnographic approach to produce a descriptive account of the sociomaterial practices I observed related to the farm. For ten months, I accompanied the class (comprised of four autistic students, their post-16 classmates, school staff and tutors, and the material things that accompanied them) on their journeys in and around the farm. Though the study focused on activity and practices at the farm, the outdoor experience did not start and end at the classroom door. Practices in other settings prepared for and shaped the experience at the farm, as did objects that travelled with the class. These related to things like learning tasks, outdoor weather protection, and communication support, as the participating young people communicated in different methods and not all used verbal, spoken language. Therefore, the research took place across multiple locations associated with farm visits, including the classroom and school building, a garden centre, and in a large school van.

In the development of a detailed ethnographic account of what happens when these autistic young people spent time in this natural environment, this study explored what a sociomaterial, relational approach might offer to existing discussions around what autism is. For example, transitions within education and to adulthood can be particularly challenging for autistic young people (Smith et al 2012; Batten 2005), and the findings from this study connect young people's experiences in going outside the classroom to the wider context of preparing them to enter the world outside of school. However, and importantly, this study does not make claims about all autistic

⁶ A 'special school' in England is one that offers educational provision for children and young people with 'special educational needs' or SEN. Many students at special schools will also have an Education, Health and Care Plan (EHCP), a legally binding document that outlines what needs a student might have and what support a local authority must provide (Department for Education 2019).

young people or try to speak to all outdoor environments. Instead, it provides a rich account of some of the complex interactions between people and things related to one very specific context – four autistic young people in a post-16 class from a special school making visits to a small farm. These observations of the practices on and around the farm might offer some exploratory insights on the complexities of autism-in-relation and what encounters in outdoor environments might have to offer for autistic young people.

1.6 Mapping out the thesis

In this section I provide an overview of how this thesis is structured and what it contains. **Chapter 2** reviews the interdisciplinary fields this study relates to and demonstrates how the aims and approach of this study work with and respond to these existing bodies of knowledge. It firstly examines what is meant by ‘natural environment’ and looks at how human relationships with the natural environment have been theorised, as well as how this pertains to debates around childhood/youth and educational experiences in natural environments. The chapter then introduces the phenomenon of autism, summarising the diverse ways that autism is theorised and researched, before looking at related educational approaches. I close the chapter by demonstrating that there are conflicting accounts of these different phenomena from both biologically and socially constructed perspectives and questioning the usefulness of these approaches to understanding how either nature or autism emerges. I suggest that there are other ways to understand the complexity and entanglements that make up these phenomena, making a case for the sociomaterial framing this study uses.

In **Chapter 3**, I explain this sociomaterial theoretical framing and the resources I draw on. I describe how and why I use aspects of actor network theory, Mol’s (2002) concept of multiplicity, and ‘practices’ to frame the data collection and analysis. This prefaces the explanation and justification for the methodology used in this study in **Chapter 4**, which introduces the sampling strategy and selection of field work sites; sets out the ethnographic approach and uses of observation, interview and

documentary analysis methods; explains the process of analysis; and discusses the complex ethical considerations undertaken in this study. The next three chapters (**Chapters 5-7**) discuss the findings and analysis of the data I collected across three main areas: preparatory practices for going outside to the farm; the role of materiality; and the importance of the body in these encounters in the natural environment of the farm. **Chapter 5** examines the importance of preparation for venturing into the outside environment and how these preparations for the farm also fit a wider framing of preparing young people for the transition to life after school. **Chapter 6** considers the emergent roles of objects and materiality in and around the farm environment and how these shape practices that enact different versions of autism. **Chapter 7** foregrounds the importance of the body in the practices observed in and around the farm environment, particularly in those related to food, communication, and sensory experiences.

Following the three analysis chapters, **Chapter 8** summarises and discusses the understanding this analysis offered. It brings together the sociomaterial practices that characterised these experiences and discusses how autism was enacted in these environments. Specifically, it lays out how the natural environment of the farm enabled autistic young people's visibility and active engagement with the natural world; offered a place to evolve within temporal routines; and provided opportunities to share common moments and practices. The chapter then describes how autism and a natural environment co-emerged in multiple versions in and around the farm. It finally gestures to pedagogical considerations that pay attention to sociomaterial relations and may support recognising and valuing of autistic young people's ways of becoming and knowing in the world. The concluding chapter, **Chapter 9**, connects this discussion back to existing debates and knowledge about autism and the natural environment. It provides an overall summary of the study and ultimately argues for an understanding of autism-in-relation where autism is understood as emergent and entangled in social and material practices. This chapter also recognises limitations of the study and suggests promising avenues for taking its findings on to future research.

Chapter 2: Setting the scene: autistic young people's experiences in natural environments

2.1 Introduction to Chapter 2

This study sits at the confluence of three areas: natural environments, young people, and autism. While there is not much written about the specific nexus this study occupies, much interdisciplinary knowledge exists around each one. This chapter examines the debates and related literature surrounding these areas and the places they overlap. Along the way, I identify the existing gaps and unanswered questions raised in these debates that are both pertinent to and driving forces in this research. In the first section of this review, I discuss what is meant by 'natural environment,' how it relates to conceptualisations of 'nature,' and theorisations of human relationships in natural environments. Secondly, I examine theorisations of childhood and youth more generally and then in relation to experiences in natural environments, including educational ones. In the third section, I present conceptualisations of disability and autism and show how autism has been studied and responded to in educational settings. In the final section, I summarise the main debates and also draw connections between the existing theoretical framings of these three areas that preface the sociomaterial approach that this study takes.

2.2 Conceptualising 'natural environment'

It is important to clarify from the outset of this review what is meant by 'natural environment' and the related idea of 'nature.' This section defines these concepts, then examines debates related to human (and especially children and young people's) relations to natural environments before connecting these to educational contexts.

The concept of 'natural environment' is central to this study and has been defined in many ways. For this research, I align with Hartig et al (2014, p.208) who offer the following useful definition of 'natural environment' as the 'physical features and processes of nonhuman origin that people ordinarily can perceive, including the

“living nature” of flora and fauna, together with still and running water, qualities of air and weather, and the landscapes that comprise these and show the influence of geological processes.’ Other literature contrasts ‘natural’ environments with ‘built’ ones (Dillon and Dickie 2012), though I also recognise that a ‘natural environment’ is not necessarily one that excludes anything artificial, and some such environments are also human-designed and maintained (Hartig et al 2014). The environment specifically examined in this study – that of a small UK farm – is one such place.

The term ‘natural environment’ is also often conflated with that of ‘nature,’ an arguably broader and more nebulous concept. ‘Nature’ is, as Castree (2004, p.194) writes, ‘that most semantically unruly and politically ambiguous of signifiers.’ It is a concept that is used in different ways depending on discipline, era, and geography (Hartig et al 2014). In one sense, ‘nature’ is often characterised as that which is not human and is separate to people and the things that people make. In this sense, nature (or biology) and culture (or society) are commonly seen as discrete, distinct entities and often depicted at contrasting ends of a spectrum – natural vs. social sciences; nature vs. nurture; cognitive development vs. socialisation, primal vs. civilised, child vs. adult. Rooted in Descartes’ philosophy of mind-body dualism, these binaries offer discrete and often incommensurable explanations of the causes or factors associated with human development (Niemimaa 2014). This division can also be seen to frame phenomena like those relevant to this research such as the biological versus social factors of childhood development or understandings of autism, which are further discussed in Sections 2.3 and 2.4.

There have been many challenges to this Cartesian paradigm in ‘well established critiques of the reductive but effective categories of human/animal, nature/culture’ (Castree and Nash 2006, p.502). Some scholars, like Latour (1993) and Haraway (1991), contend that the boundaries between the social and the natural are artificial and have been created. Ingold (2010, p.13) also disrupts this dualism by suggesting that development actually happens in a ‘creative unfolding of an entire field of relations within which beings emerge and take on the particular forms they do.’ This idea of emergence through relation contrasts with more conventional notions of ecology that might see an organism as developing within an environment but still

separate from it. Instead, Ingold (2010) argues, studies of living beings should examine the dynamics of an indivisible organism-in-its-environment, where living things and environments are not separable.

There is also an awareness of the 'complexity and interconnectivity of life' in other fields like ecology and environmental epigenetics, where once-defined boundaries of biological/natural and social/cultural are becoming blurred, intertwined, and mutually influential (Panelli 2010, p.80). Such developments challenge models of the environment and human health that have 'tended to black-box the material, biochemical body and treat the environment as an inert setting' (Guthman and Mansfield 2012, p.486; Sultana 2012). These ideas can be also found in emerging philosophies like new materialism and posthumanism, which also suggests the role of the environment is active and performative rather than passive and inert (Panelli 2010; Ingold 2011).

While this review cannot in full explore these complex, new perspectives, it draws from this literature a recognition of the sociomaterial entanglement of the world. These perspectives see the world as emergent in its relations and interconnectivity, so human encounters with a natural environment, for example, are co-constituting and mutually shaping, a two-way street. It is worth noting that such discussions that position 'nature' and the 'natural environment' as active and co-emergent with human action rather than as separate backdrops to human action and agency (Ingold (2010, p.20) are not common parlance outside academic debates.

Conceptualisations of 'nature' as distinct and separate from society and culture still play a 'powerful role' in contemporary society, and especially outside academia (Castree 2004, p.191).

This way of understanding 'natural environment' as playing an active, agential, participatory role in the world rather than as an inert container for human action is useful in this study as it opens up the role of the natural environment in these encounters for examination (Lea 2008; Bastian 2009). Other scholars who have

studied and developed the concept of 'place'⁷ similarly recognise this reciprocal relationship humans have in relation to 'places' in our lives. In other words, humans are affected by the places they inhabit and they in turn shape those places (Greenwood 2013). Places are, Nespor (2008, p.478) argues, sites 'that people need to listen and attend to.' This study acknowledges this mutual, relational approach between a natural environment and the people and things active in it, which offers a way through the duelling biological-social debates discussed earlier. 'Place' has also become an important concept in relation to education and outdoor learning. Notions like 'place-based' education (Sobel 2004) and 'place-responsive' pedagogies have developed to recognise and value entanglements and relations between 'people, places and purposeful activities' in productions of educational experiences (Mannion et al 2013, p.793; Wattchow and Brown 2011).

Given that this study is set in a particular place and I did not study just any 'natural environment,' I will also briefly discuss the type of natural environment the class visited – a small farm in the UK rural countryside. As mentioned before, 'natural environment' for the purposes of this study does not necessarily mean a place that is wild or untouched (Hartig et al 2014). Some environments may include some human design or involvement, and land used for agricultural purposes is one such example. Harbers (2010) suggests that in human-farm relations, there is a deep level of attention to the environment and much to take care of that reciprocally affects the livelihood of a farmer – including maintenance of buildings, attending to crops, considering the weather, the price of the crops. Harbers (ibid), who grew up on a farm, shares how this attention to the land is usually attached to a macro-level economic preservation and viability of the farm's future and farmer's livelihood. Agricultural-based interactions have also been seen as active in the ways they intentionally 'shape the natural green environment' that can have long-lasting and deep effects on that environment (Sempik and Bragg 2016, p.104). Farms and

⁷ The concept of 'place' is, as Nespor (2008, p.478) suggests, 'connotation-rich' and difficult to define. It has a long history that this review cannot do justice to, but Nespor helpfully examines what 'place' means in relation to 'place-based education' studies, relevant to this research. She suggests that it usually relates 'at some level to a bounded areal setting independent of human activity -- "the land," "the natural environment," and "the nonhuman world."'

agricultural settings are becoming more commonly developed and used for educational and therapeutic purposes, as discussed further in the next section.

It is also important to note here that while this study focused on one 'place,' I recognise that paying attention to a place as agential and dynamic does not necessarily mean that it is not influenced by other practices and relations outside of that specific environment. In this study, I focused attention on the farm environment, but also recognised that encounters at the farm were also influenced by many other factors, including the context of the education sector, needs of the farm, curricular requirements, school culture, young people's own needs, and teacher confidence and knowledge (Dillon et al 2006).

In summarising this first section, this study uses the contested concept of 'natural environment' to refer to the physical elements of the world, including the living flora and fauna and the qualities of soil, air, weather, water that make up the material, natural environment we live in (Hartig et al 2014). In this study, I examine the relations and practices in and around one particular natural environment – that of a small farm enterprise. I approach an understanding of this natural environment as a 'place' that shapes those in it as much as they shape it and attempt to examine this emergent and complex relationship.

2.2.1 Human relations with the natural environment

Human relations with a natural environment do not necessarily mean direct, tangible interactions like climbing a mountain or digging in the dirt. Kellert (2002) identifies three different types of human experiences with natural environments: *direct*, as in physical encounters in natural environments, such as hiking or gardening; *indirect*, as in environments constructed by people – like a zoo or botanical garden; and *vicarious*, as in through media or art. While experiences in natural environments considered in this study will primarily be direct encounters in the outdoor environment of the farm, I recognise it may also include forms like virtual, visual or audible representations of natural environments that take place in the school-based setting (as through technology, display boards or discussions) (Hartig et al 2014).

Human relationships with natural environments have also been categorised in broader ways. Evernden (1985) differentiates three types of human relations with nature – *nature-as-object* (where it is seen as a resource for human use), *nature-as-self* (where humans are part of nature and responsible for its care) and *nature-as-miracle* (where humans are enchanted by and in awe with nature). Throughout human history, we can see how these different conceptualisations of human-nature relationships have developed. An early dependence on and interdependence with nature, along with a respect for its natural resources, began to change with the advent of agriculture and later industry, when the control and use of nature for human productivity took hold (Mason 1993). While this early reliance on the natural environment still exists, Kahn (2011) argues that it is now more removed from our daily, and more technological, lives. Others contend that a prioritisation of human interests and an instrumental view of the environment – *nature-as-object* – has invoked an exploitative, harmful element to these relationships and led to environmental crises (e.g., deforestation, pollution, biodiversity reduction) that have directly resulted from human activity (Frantz et al 2005; Fawcett 2013). Also framed as ‘human achievement over passive nature,’ these accounts still hold currency today, though backlash movements like Deep Ecology contend that humans are part of a fragile network of life and damage to it also harms us (Panelli 2010, p. 82; Fawcett 2013).

Thinking about human experiences in natural environments also raises epistemological questions on how humans 'know' and connect to nature. Many have sought to answer these questions, seeing these connections as integral to human identity, sense of community, and empathic behaviour (Mayer and Frantz 2004). In relatively recent history, this nature-human relationship is often associated with Romanticism in the late 18th/early 19th Century, which emphasised the importance of a connection with and return to wild nature (considered to represent purity and innocence), partly in response to the industrialisation and empiricism of the Enlightenment (Taylor 2013). The Romantic ideas have been a strong influence in the

contemporary environmental movement and characterisation of children as innately connected to nature, as discussed in the Section 2.3.2 (ibid).⁸

2.2.2 The benefits of being in natural environments

A significant number of studies suggest that being exposed to or spending time in natural environments can benefit human health and wellbeing (Keniger et al 2013; Hartig et al 2014; White et al 2019). As more and more people live in cities and many people's daily lives become distanced from the natural environment (Frantz et al 2005), returning to nature is often viewed as restful and recuperative, particularly within Western societies (Lea 2008). Studies suggest that while indirect access to nature via media or technology is better than no access at all, it is not good as having direct experiences (Kahn 2011). Natural therapeutic retreats and the growing visibility of the 'green care' or 'green therapy' movements are examples of nature-based interventions that aim to support people's health and well-being (Hine et al 2008; Sempik and Bragg 2016). Returning to the focus of this study, horticultural and agricultural places are also often used to support therapeutic interventions, sometimes known as 'care farms' or 'green care farms.' Though the farm I visited in this study was not called this, it did share some attributes of other 'care farms,' including opportunities for physical activity, spending time in outdoor spaces, and participating in meaningful work (De Bruin et al 2013). 'Care farm' activities are often premised on ideas of 'ecotherapy,' where the human-nature interactions are mutually beneficial and all things involved in the activity are nurtured and cared for (Sempik and Bragg 2016).

It is useful to review the evidence of possible benefits of being in nature for this study, as this is often used as rationale for providing learning opportunities in the

⁸ More recent theorising about the human connection to natural environments can be seen in naturalist Edward O. Wilson's (1984) concept of *biophilia*, which suggests that humans have an innate biological connection with nature and a tendency to affiliate with life or lifelike processes. Evidence that is used to support this biophilic connection includes human preferences of natural over built environments and nature's effect on stress reduction (Kahn 2011; Kaplan and Kaplan 2002). However, biophilia has faced criticism for being biologically and genetically deterministic and for disregarding societal and cultural influences (Kahn 2011), an example of the nature-biology/society-culture divide debate suggested earlier.

natural environment (Dillon et al 2006; Natural England 2016a, 2016b). There is some evidence, particularly from environmental psychology studies, that spending time in natural environments can have positive impacts on individual people. This includes stress alleviation (Kaplan 2001), improving mental health (Hine et al 2008; Townsend and Weerasuriya 2010), and restoring attention (Kaplan 1995). However, the intrinsic therapeutic nature of these experiences – in essence, the cause and effect relationship that is implied – has also been questioned. Conradson (2005 p.338) suggests that there is a ‘tendency to frame such settings as having intrinsically therapeutic properties ... And yet individuals clearly experience even scenic environments in quite different ways.’ Lea (2008) argues that it might well be beneficial to be in a natural environment, but it can also be uncomfortable, harmful, or even destructive.

These arguments posit that experiences in nature should be seen as contextually situated and also unevenly distributed, in that they are not necessarily available to or experienced by everyone in the same capacity. Panelli (2010, p.81) reviews studies showing ‘uneven social-nature experiences [are] available to different groups’ and further raises possible inequalities of access to such positive, ‘therapeutic,’ or restful relationships with nature. For example, disabled adults and children are reported to be ‘under-represented’ users of open spaces and green spaces for several reasons, including inaccessibility and lack of information (Woolley 2012; Von Benzon 2011). Taking these points into account, this study does not see educational visits to a natural environment as inherently beneficial or equally accessible and experienced by different groups of people. Instead, I attempt to unravel and examine what happens in visits to a natural environment by taking a close look at what practices happen in and around these visits. I am not focusing on the end outcomes, effects or benefits of being in the natural environment so much as illuminating what makes these visits to the natural environment happen as they do for four young people in one particular class.

2.3 Children and young people in natural environments

The discussion in this chapter so far has examined human relations in natural environments at a broad level, and I now turn to consider how this relates to young people. Significant scholarship in the social sciences has focused on conceptualising 'childhood' and 'youth.' While this study is rooted in youth or adolescence, much of the literature on 'childhood' remains relevant because both are conceptualised as stages of life that are distinct from 'adulthood.' Before connecting childhood and youth to discussions about the natural environment, however, I provide a brief overview of debates related to these phases of life more generally. There are two reasons for this. Any study involving children and young people carries assumptions about the nature of human development and the role of children and youth in society and should acknowledge this. Additionally, the conceptualisation of childhood and youth aligns with other theoretical debates introduced earlier in this thesis – notably whether childhood and adolescence are framed through biological and/or social understandings (Prout 2000; Ryan 2012). Shifting perspectives on the influence of nature and/or society on childhood and youth are found throughout the history of these concepts, and Ryan (2012, p.441) identifies a 'zig-zagging historical pathway' that has moved attention from the biological to the social and back again. These concepts and this pathway are briefly examined here.

2.3.1 From developmental psychology's 'normal' child to sociology's 'constructed' one

The origins of studying children and young people began in the 19th Century with evolutionary theory and a focused interest in biological and evolutionary development (Burman 1994).⁹ This evolved into the field known as 'developmental psychology,' which generally observes children and young people in order to construct, understand, and explain what is 'typical' in physical, cognitive, and emotional development towards adulthood (James 2011). Developmental psychology and its views on childhood have been powerful influences on understandings of humankind, as well as the subsequent development of

⁹ Darwin has been suggested as the first author of a study on children with his 'Biographical sketch of an infant' in 1877 (Burman 1994).

classifications and policies in areas affecting childhood like health, social work, and education. This can be seen through constructs like 'developmental milestones' and 'mental ages,' which are instrumental in defining and diagnosing impairments such as autism (Burman 1994).¹⁰

Sociological studies of childhood and youth developed in contrast to those described above. These contextualised an individual child within a certain social era and emphasised societal and cultural roles in constructing understandings and discourses related to 'childhood' or 'youth' (Taylor 2013). Early perceptions of children and young people were as 'becomings' or unformed 'pre-adults,' which often meant they were not recognised as worthy of study themselves. A shift to a 'new sociology of childhood' in the late 20th Century saw children and young people starting to be acknowledged as fully formed people or 'beings' who could make their own decisions and whose self-knowledge was worthy of consideration (Corsaro 2015; Lee 2001; James 2011). Children and young people were not seen as solely outcomes of society but participants in its formation, moving from being objects of study to subjects with internal agency and their own concerns (Woodhead 2011).

However, this theoretical shifting of children and young people from 'becomings' to 'beings' has hardly been straightforward. Other have argued that children and young people are not autonomous decision makers, and their own agency and decision-making ability is complicated by social institutions and practices that may control choices and behaviour and are often set up by adults (Qvortrup et al 2011; Holmes 1998). Some scholars have also been critical of a purely social construction of childhood, re-asserting the role of biology and its interaction with social factors (Prout 2000). Considering children and young people as 'beings' on a level equal to adults can cloud the realities and needs of their actual stages of development, where they exist in and experience the world in different ways than adults do (Lee 2001).

¹⁰ It is important to note that many developmental psychology studies also tend to come from Western societies that then universalise their own forms of childhood and notions of 'development' and progress in other contexts (Woodhead 2011).

In an effort to find a way through this 'zig-zagging' between more biological/material and social/cultural characterisations of development, scholars like Lee and Motzkau (2011) and Prout (2000) have attempted to reconcile the divides by proposing a 'new wave' of thinking, using terms like 'hybridity,' 'multiplicity' and 'biosocial nexus.' Gallacher and Gallagher (2008) suggested alternative models that embrace emergent subjectivity, writing that we are always 'becoming' rather than existing as singular agents, further questioning the idea that agency is found inside an individual who is a fully formed 'being.' Prout (2005, p.44) brought the argument back to one that connects nature/biology to culture/social worlds, by suggesting that 'the future of childhood studies rests on ways of treating childhood as a "nature-culture" ... [O]nly by understanding the ways in which childhood is constructed by the heterogeneous elements of culture and nature, which in any case cannot be easily separated, will it be possible to take the field forward.'

More recently, other scholars contend that paying attention to the material world in understanding childhood and youth is as important as the discursive aspects (Lenz-Taguchi 2010; Taylor 2013). Fingerson (2011, p.217), for example, argues for a reconnection of these debates to the body, claiming that human experiences have 'a bodily dimension, yet are not biologically determined.' The constant changes that happen in bodies in interaction with their environments are not to be ignored. In this vein, periods of development like childhood and adolescence are not reducible to either material or social factors and could more usefully be considered by a conceptualisation of childhood and youth that no longer treads one side of this line. Instead, childhood and youth can be seen to emerge in the interactions and relationships between social/cultural and biological/material factors, and it is these that are productive areas to study. I have drawn from these ideas in shaping the present research that examines the relationships among the material and social aspects of the world, rather than reducing autistic young people to measurements of their typical biological development or their social construction.

Recognising how these debates play out in relation to adolescence is particularly resonant for this study. There are many reported biological and neurological changes

at this time of life, and recent neuroscientific studies suggest that puberty may represent a sensitive time of brain development in which adolescents are more likely to make risky decisions in certain contexts (Blakemore and Robbins 2012; Nagel 2014). However, biology isn't the only factor in how adolescents' lives take shape. Negotiation between parents and children about access to the outside world 'is likely to reach its zenith when their offspring enter and pass through adolescence' and they seek more autonomy (Jenkins 2006, p.381). Additionally, this time of life often brings changing social relationships and levels of intimacy, as well as additional societal rights and responsibilities (Zimmer-Gembeck and Collins 2006).

These life changes are of course not the same for all young people. Returning to the context of this study, there may be additional physical considerations and fewer expectations or opportunities to take risks for disabled young people. Disabled young people report fewer social, academic, and employment opportunities, particularly as they prepare for 'transition' from school into adulthood (Morris 2002). These transitions from youth services to adult provision (and from childhood/youth to adulthood) are complex and often reported to be problematic and unsatisfactory (Beresford 2004; Milen and Nicholas 2017). Whilst acknowledging these additional challenges, it is also important to recognise that there are also changes in this period of life that may be affecting the experiences of all young people. In this study, I recognise that the young people may be as affected by 'ordinary' biological and social experiences of all young people as they are by the result of impairment.

2.3.2 Children and young people's relationship to 'nature'

There has long been an association – a conflation even – drawn between childhood and 'nature,' stretching back to the Romantic periods (Taylor 2013; Travlou 2006). This is notably figured in the writings of Jean-Jacques Rousseau and particularly in his book *Emile* (2003 (1762), p.1), where children and 'Nature' are characterised as pure, innocent, and also corruptible by forces of society and 'in the hands of man.' Affrica Taylor (2013) takes a deep look at the development of this connection between childhood/youth and nature, from Romantic roots to current popular

culture and into education practices.¹¹ She argues that the Romantic view created a 'Nature's Child' figure that aligned with innocence and purity and saw 'Nature-as-Teacher' as the preferred mode of education.

These conceptualisations of children as more intrinsically connected to natural places and other living things also work to reaffirm a separation of children's worlds from adult ones and remain influential in today's understanding of childhood/youth and relationships to the natural environment (Taylor 2013). Recent studies have, for example, attempted to quantify this connection as a measurable psychological construct of 'nature connectedness' (Richardson et al 2019). However, Taylor (ibid, p.xiv) suggests that any simplified coupling of children and nature is stultifying, stating that, 'If only we could think beyond the exclusive, monogamous and romantic union of childhood and singular Nature, all manner of interestingly variegated childhoods, natures and cultures could be rearticulated.' She recognises that 'nature' is not just one single entity and recommends examining what actually happens when children and young people spend time in natural worlds, rather than assuming constructed, demarcated lines of identity. That is precisely what this study aims to do.

This linking of childhood/youth to nature often positions children in hopeful ways and conceptualises and imagines better futures, perhaps as respite from and as a response to moral panics and social ills like economic crises and a warming climate (Taylor 2013). Threats to children's associations with nature conversely raise alarms, as seen in contemporary reports of children and young people's increasing disconnection to nature – an idea that American writer Richard Louv famously termed 'Nature Deficit Disorder' in his 2005 book *Last Child in the Woods*. Louv's ideas have fuelled public concerns related to children's poor health outcomes and diminishing emotional stewardship of the environment.¹²

¹¹ This can be seen in figurings of children in nature within popular culture and literature like *Pippi Longstocking*, *Charlotte's Web*, or *The Jungle Book* (Taylor 2013).

¹² Such a distance has also been theorised in Kahn's (2002) notion of 'generational environmental amnesia,' which sees wildness/wilderness as relative concepts over time. This idea suggests that as

Studies do suggest that children and young people are spending less time in the natural environment than they have in the past (Natural England 2019; Travlou 2006; Louv 2005; Dillon and Dickie 2012).^{13 14 15} Many factors affect the time children and young people spend in the outdoor natural environment, such as lack of opportunity and access (particularly for those of lower social class, minority ethnic groups or with an impairment), increased parental control over time, and general exclusion of young people from public spaces (Travlou 2006). One of the most prominent barriers is the perceived risk by parents and children of spending time outside – be that from various things like traffic, physical harm, or poor infrastructure (Gill 2007; Travlou 2006).¹⁶ Von Benzon (2016) also notes that children and young people’s access to green spaces and nature is generally becoming more restricted, and children are increasingly sheltered from risky activity. Ironically, the lack of time spent outside is also associated with risks, albeit of a different ilk: childhood obesity, poor environmental stewardship, and too much ‘screen time’ (Louv 2005; Gill 2007).

2.3.3 Education and learning in the natural environment

Educational settings are regularly promoted and suggested as arenas for re-connecting children and young people with the natural environment (Kyburz-Graber 2013). This can be seen in academic reviews (Dillon et al 2006), as well as in the 2011 white paper *The Natural Choice: Securing the Value of Nature* (DEFRA 2011) and the 4-year research Natural Connections Demonstration Project, which ended in 2016

landscapes change, each successive generation loses an understanding of what came before and grows up with a relative sense of what a 'healthy' environment is based on their individual experiences.

¹³ For example, Natural England (2019) has been conducting the Monitor of Engagement with the Natural Environment since 2013, and its recent results from the 2018-19 survey show that there is a decline in the proportion of children spending time outside, especially without an adult companion. Time spent outside seems to particularly decrease during teenage years.

¹⁴ To put it into context, however, this is also not a new worry. Early environmental writers like Henry David Thoreau (1862) worried about children’s early distancing from Nature too.

¹⁵ However, as Von Benzon (2011) indicates, the long-term consequences of this distancing are not well understood.

¹⁶ Interestingly, associations of risk with childhood and youth have increased over the past few decades at a time when childhood is safer than ever (Gill 2007).

(Natural England 2016a). However, this does not mean that outdoor learning is happening widely across the country, as some report that opportunities to access these outdoor spaces as part of school are not widespread and many barriers get in the way (Dillon and Dickie 2012; Power et al 2009). Learning in the natural environment happens in many ways and in both informal and formal educational settings. As this study takes place as part of a school experience, I briefly examine a selection of literature related to more formal educational experiences in natural environments – known by various names including ‘environmental education,’ ‘learning in the natural environment,’ ‘learning outside the classroom,’ ‘learning beyond the classroom,’ and ‘outdoor learning.’

Approaches to learning in the natural environment are not immune from their cultural, historical, and social contexts, and I recognise that discussions around outdoor education have ‘come largely from Anglo-American routes’ that do not always account for cultural contexts of different places (Humberstone and Stan 2012, p.183-184). Within this Western context, the importance of ‘nature study’ for children and young people has been part of formal schooling since the late 19th Century (Pyle 2002; Leopold 1949). ‘Environmental education’ has its roots in the early-20th Century ‘Nature Studies’ movement, which ‘traditionally focused on learning about the natural sciences’ like field ecology or taxonomies (Sobel 2004). Learning experiences in the natural environment have not just been about developing scientific knowledge, however, and they are also associated with normative aims like changing behaviour and awareness about environmental issues and stewardship (Kyburz-Graber 2013; Jickling and Wals 2013).

The philosophical dualism discussed early in this chapter can also be seen in this field. Some scholars suggest the Western education system reinforces a separation between humans and nature, where ‘nature’ includes plants and animals but not humans, which can lead to a prioritisation of human interests over the natural environment (Wilson 2019). But other ways of relating to natural environments have also emerged in the relatively short history of research in this area (Fawcett 2013, p.409). For example, ‘place-based’ education, mentioned earlier, focuses more on

interactions with and connections to local environments rather than learning about the scientific or ecological content. Sobel (2004, p.13) describes a place-based approach as a more 'inclusive view of environmental education' that considers how the natural and built landscapes, community and cultural aspects 'all interact and shape each other.'

In terms of *what happens* in learning experiences in the natural environment, Morag and Tal (2012) suggest that while going outside is seen to be a positive thing to do, there has not been extensive examination of actual practices of outdoor education.¹⁷ Some studies report greater emphasis on outdoor learning in primary over secondary schools (Nicol et al 2008; Dillon and Dickie 2012). The content of learning experiences can range across different areas of the curriculum or personalised learning objectives and often complements what happens in the classroom (Brodin 2009). More formal outcomes like gaining specific knowledge about the natural environment can also be tangential to other personal and social benefits. Outdoor learning and education are often associated with risk and adventure, themselves seen to be positive for developing characteristics like self-esteem and personal agency (Wattchow and Brown 2011). These more social or emotional developments can be in contrast, though, to school-related experiences that often frame learning as an individual process that happens through 'cognitive processing of experiences' (ibid, p.26).

Research does suggest that outdoor opportunities have the potential to add value to learning experiences, as suggested in a recent Natural Connections Demonstration Project briefing, which states, 'A substantial body of evidence ... tends to demonstrate a positive association between learning ... in the natural environment and ... a diverse range of learning processes and outcomes, including cognitive outcomes and attitudinal, social and developmental outcomes in people of all ages' (Natural England 2016c, p.1). A 2006 review of 150 research studies on outdoor learning also found 'substantial evidence' that well executed outdoor experiences

¹⁷ Morag and Tal (2012) went on to develop a framework to help understand how to plan and undertaken these experiences themselves, called the 'Field trip in natural environments framework.'

can 'add value to [students'] everyday experiences in the classroom' (Dillon et al 2006, p.107). However, as Dillon et al (ibid) suggest, there are many factors that contribute to improving learning or educational outcomes, which are not guaranteed simply by moving outside. They go on to identify some of these factors as attitudes toward health and safety, teachers' confidence, curriculum requirements, availability of time and resources, and wider changes and context of the education sector. Furthermore, other studies suggest that simply *spending time in natural environments* may be more important than formal environmental education experiences for some aspects like influencing people's future involvement in outdoors activities and positive attitudes toward nature (Liddicoat and Krasny 2013).

2.3.4 Accessible and inclusive educational opportunities in the natural environment

There has not been as much interest or research that examines disabled people's experiences in or uses of outdoor natural environments (Von Benzon 2011; Burns et al 2009). There is, however, evidence to suggest that such spaces are often not accessible or welcoming for disabled people (Kitchin 1998; Von Benzon 2011). Burns et al (2009, p.407) argue that much research that considers relationships between disabled people and natural environments tends to view these environments as therapeutic or rehabilitating rather than places of 'revitalisation' as might be associated with non-disabled people. There is similarly a paucity of literature or scholarship around learning experiences in the natural environment for disabled children and young people or within special schools (Farnham and Mutrie, 1997).

Research related specifically to disabled children and young people's experiences in natural environments suggests that they often experience different levels of access, modes of participation, and benefits and risks associated with experiences in natural environments (Dillon et al 2006; Blakesley et al 2013; Travlou 2006). Von Benzon (2011, p.1024) states that disabled children may be 'perceived as being particularly at risk in these environments.' While the benefits related to experiences in nature for children with impairments have not been extensively examined (Rickinson et al 2004), some studies suggest potential benefits of outdoor experiences for those with

mental health illnesses or ADHD (Blakesley et al 2013; Pearson and Craig 2014; MIND 2007; Kuo and Faber Taylor 2004). However, there are significant gaps in this area, which includes understanding experiences for autistic people, for which Blakesley et al (2013, p.4) say there is 'very little evidence.' Existing studies have identified some lower participation rates for students with special educational needs in outdoor learning (Power et al 2009) and considered beneficial outcomes of outdoor learning for disabled participants, whether that be in relation to academic performance, social or behavioural issues, or school attendance (Fox and Avramidis 2006; Price 2013). Less attention, however, has been paid to the qualities and characteristics of the experiences themselves and experiences of autistic pupils in particular, which this study aims to explore (Price 2013; Farnham and Mutrie, 1997; Blakesley et al 2013).

To summarise this section of the review, I have demonstrated the complexity involved in considering young people's learning opportunities in a natural environment and what such places are seen to offer for young people and within education. There are identified gaps in the research specific to environmental education that this study speaks to, including the need for more in-depth qualitative studies and detailed analyses of what happens in these educational encounters in a natural environment and in particular for disabled children or young people (Marcinkowski et al 2013; Hart and Nolan 1999). This study offers a detailed look at how one school-enabled experience is practiced in a particular place and for a particular group of young people. Unlike other studies that focus on the therapeutic benefits and outcomes of experiences in natural environments, this study also attempts to observe the richness and undertaking of the activity itself and for four autistic young people in particular. Reviewing current debates about autism and autistic people is the next task at hand.

2.4 Autism in the context of disability

While autism is the focus of this study, it is useful to first situate discussions about autism in a broader understanding of disability, itself comprised of contrasting

philosophical perspectives. Discussions of disability have historically been rooted in a biologically based 'individual' or 'medical model of disability,' in which impairment or disease was located within the individual's body and was treated with cures or prevention to try to return the individual to a 'normal' state of being (Shakespeare 2013). This has roots in the development of 19th Century psychological frameworks and standards referenced earlier that began to differentiate 'normal' from 'abnormal' and 'typical' from 'atypical' (Lester and Paulus 2012; Nadeson 2005). This perspective tends to 'essentialise' disability as an internal and integral part of a person. However, over the past 50 years or so, discussions around disability have generally shifted from 'an individual to a social approach to disability' (Winance 2016, p.100).¹⁸ Most prominently, a 'social model of disability,' in contrast to a 'medical' or 'individual model,' emerged in the mid-1970s, conceptualising 'disability' as a result of social and cultural discriminatory institutions, practices, and attitudes and not an individual's characteristics (Oliver 2013). This placed the onus of change on societal and cultural institutions, infrastructure and attitudes, not on an 'abnormal' individual. These competing frameworks – one placing disability within the individual and the other at the door of society – have framed much of the debate around disability over the past few decades. The social model in particular has influenced changes in policy, practice, research, and public discourse (Oliver 2017), though Oliver (2013) also describes areas of society that have proven more resistant to change, including employment and the school sector.

However, the social model has also been criticised for certain limitations, notably its focus on adults and also its removal of the body and impairment from discussions and understandings of a disabled person's experience (Ali et al 2001; Freund 2001). Oliver, one of the first scholars to discuss the different models, shared in 2013 that the introduction of the social model was not meant to completely replace the individual one. Disability scholars Shakespeare and Watson (2001, p.17) contend that 'people are disabled both by social barriers and by their bodies. This is

¹⁸ In relation to the context of this study, a field of Disability Studies and more recently Critical Disability Studies has developed in the Anglo-Saxon world and consideration of disability as part of other disciplines has also been seen (Winance 2016; Goodley et al 2019).

straightforward and uncontroversial.’ In the 1990s, the importance about the body and impairment re-emerged in these debates (Hughes and Paterson, 1997), a shift that this study acknowledges to be important and also aligns with a wider ‘material’ turn across the social sciences, discussed further in Chapter 3.

2.4.1 The complexity of autism

Autism is a contested phenomenon, evident in its depictions as ‘highly uncertain’ (Hollin 2017, p.209), an ‘enigma,’ (Frith 2003), a ‘culture’ (Straus 2013), and even a ‘myth’ (Timimi et al 2011). Its disputed character, combined with steadily increasing numbers of global diagnoses, has led to wide interest in autism across a range of research and practice fields, including genetic, psychological, and social sciences, as well as in more creative fields and mainstream public debate (Orsini and Davidson 2013). Wright et al (2014, p.1) contend that the ‘quest to understand ASD is monumental, dramatic and paradigmatically shifting.’ Autism is perhaps so captivating because it questions, confounds, and challenges our understandings of what it means to be human and experience the world.¹⁹ Murray (2008, p.5), in somewhat more dour terms, suggests a fascination with autism may be related to ‘an allure of potentially unquantifiable human difference and the nightmare of not somehow being “fully” human.’

This deep and growing interest in autism has been partly spawned as a result of increases in prevalence, which has also led to its characterisation as an ‘epidemic.’ Since its identification by psychologists Leo Kanner in the US in 1943 and psychologist Hans Asperger in Austria in 1944,²⁰ autism has seen disproportional increases in diagnoses.²¹ Recent estimates of prevalence in Western countries is

¹⁹ Leo Kanner, one of the first psychologists to identify autism spoke of autistic children’s ‘fascinating peculiarities’ (1943, p.217).

²⁰ For a retelling of the fascinating historical roots of autism identification, diagnosis, and treatment, read Steve Silberman’s *NeuroTribes* (2015).

²¹ In 1992, 19 in every 10,000 six-year-old Americans were diagnosed with autism, while by 2006, more than 90 in 10,000 eight-year-olds were diagnosed (in other words, 1 in 110) (Weintraub 2011). More recently, the Center for Disease Control and Prevention in the US recently reported prevalence rates of 1 in 59 children, among a sample of 8-year-old children in a network across 11 sites in the country (Baio et al 2018).

around 1% of the population, though this can be different in various global contexts (Fletcher-Watson and Happé 2019).²² There is some disagreement around how to explain this increasing prevalence, though many scholars point to increased awareness, changing diagnosis criteria, more frequent diagnoses of younger children, and possible but yet unidentified environmental risk factors as contributors to the rising numbers (Weintraub 2011).²³ Orsini and Davidson (2013, p.1) point out that the dominant framing of autism that focuses on rising numbers of diagnoses belies the richness of autistic lives behind them – ‘the statistics aggregate the rich qualitative experiences of life with autism into a language that is (too) easy to understand.’

Scholars like Nadeson (2005) question this framing of autism as an ‘epidemic’ and argue that this increase of autism should be seen partly as a construction of a particular time and place. For example, since being named, autism’s diagnosis criteria have regularly changed and these still differ across continents and contexts (Grinker 2008). Professional use diagnosis criteria set out in two diagnostic manuals – currently they are the ICD-11 and the DSM-V.²⁴ Both are regularly updated and the criteria for autism has changed across the versions. The DSM-IV, for instance, listed autism and Aspergers Syndrome (often seen to be a form of so-called ‘high functioning’ autism) separately in 2000. By the fifth edition released in 2013, these were combined under the general term ‘autism spectrum disorder,’ demonstrating that, as Orsini and Davidson (2013, p.2) state, ‘the very notion of autism is in flux.’

²² There are other important differences in diagnosis numbers – for example, men are also currently diagnosed more than women at a rate of 4:1 though recent research suggest that this may not reflect actual numbers of autistic girls and women, who may be better at ‘camouflaging’ certain characteristics (Dean et al 2017). While these aspects of autism raise interesting questions that deserve attention, they are not the focus of this research.

²³ One of the most prominent and controversial discussions around autism has been the suggestion of a link between vaccines (and specifically the MMR vaccine) and autism. First suggested by research by Andrew Wakefield and colleagues in 1998, any link has now been fully discounted (Taylor et al 2014; Godlee et al 2011) and original research paper was retracted 12 years later. The suggested link has however had significant and lingering impact seen in decreasing vaccination rates and a subsequent rise in measles infections in the years since the research was first published (Godlee et al 2011).

²⁴ As a reminder, these manuals are the International Classification of Diseases, eleventh edition (ICD-11), which was released in 2018 and is maintained by the World Health Organisation, and the Diagnostic and Statistical Manual, fifth edition (DSM-V), which was released in 2013 and is published by the American Psychiatric Association. While the ICD is more commonly used in the UK to support diagnoses, criteria in the most recent edition closely aligns with that in the DSM-V.

The dominant account and framing of autism is one of ‘disorder’ and ‘deficit,’ in which autism is a characteristic within an individual and that resonates with a medical model understanding (Lester and Paulus 2012). Autism researcher Lorna Wing (1993) was instrumental in framing autism in ways that still hold today. She suggested that autism was comprised of a ‘triad’ of impairments: atypical social interaction, impaired communication, and repetitive/restrictive behaviours. These on the whole still frame the diagnosis criteria of the most recent DSM-V, which requires presence of evidence in two areas: ‘persistent deficits in social communication and social interaction across multiple contexts’ and ‘restricted, repetitive patterns of behaviour, interests, or activities’ (Fletcher-Watson and Happé, 2019, p.31) There is no medical test for autism, and its diagnosis is a complex mixture of observation, assessments and reports, a process that can take years (Huws and Jones 2008). This is further complicated because the ‘cause’ of autism is not well understood or defined. While it is generally agreed that autism is a biologically based phenomenon, Fletcher-Watson and Happé (2019, p.8) summarise existing research on autism and show that ‘genetic, neurological and any other biological markers of autism remain elusive.’ Hence it remains a phenomenon ‘diagnosed by behavioural indicators’ (Milton 2012, p. 883) and is still characterised as an ‘uncertain entity’ (Hollin 2017, p.209).

What can also make autism so challenging to understand is its heterogeneity – what Solomon (2010, p.248) calls its ‘hallmark characteristic.’ Autism has been called ‘inherently heterogenous’ by Hollin (2017, p.209), who goes on to suggest this heterogeneity can be seen in two different ways: as inter-personal and intra-personal. Inter-personal heterogeneity relates to differences between individuals and, as previously suggested, autism manifests in various ways in different people and also differently across a person’s lifespan (Silverman 2008).²⁵ This heterogeneity is also seen in the language developed to describe autism: autistic people are seen to

²⁵ Solomon (2010) also notes that diagnosing and understanding autism becomes particularly challenging when its heterogeneity is considered alongside with other contextual issues like race, gender, culture, and socioeconomic status.

sit along a 'spectrum' of characteristics (Wing 1996), often delineated from 'high functioning' to 'low functioning.' Fletcher-Watson and Happé (2019) suggest that the concept of a 'constellation' rather than spectrum better represents the complexity of autism, in which multiple aspects could be better understood in relation to each other. On the other hand, Hollin's (2017) intra-personal heterogeneity relates to the phenomenon of autism more widely, suggesting that no one factor can explain all its features. This has been supported by Ure et al (2018) and Jaarsma and Welin (2012, p.21), who note that autism is often understood as something that is 'not regarded as a single disease but as a syndrome with multiple nongenetic and genetic causes.' Despite this recognition of the heterogeneity and complexity of autism, it is still often presented as a 'distinct nosological²⁶ entity' with a 'unifying essence' (Verhoeff 2012, p.1).

The emerging debates in this field often fall along lines now familiar in this review – is autism primarily a biological disorder within an individual or one that is socially or environmentally influenced and produced? Studies aligning with the former might see autism as an 'essence,' 'a thing in itself,' a 'being' with biological or genetic markers held inside an individual (Nadesan 2005). Related research may seek to understand this 'essence' of autism through its biological, genetic and neurological origins. These studies are often well funded and form the basis for 'evidence-based practices' for treatment and intervention, diagnostic criteria, and service provision (Wong et al 2015). As Weintraub (2011) reports, the US federal government spent about US\$1 billion between 2000-2010 on autism genetics research but only about \$40 million on studies related to possible environmental factors. Such significant funding has not, however, produced much certainty about autism, as noted by Hollin (2017, p.210): 'Despite significant levels of investment, autism science is remarkable because it is just so uncertain.'

However, this biomedical focus is increasingly being challenged as autism is increasingly recognised to be multi-faceted and affected by a mix of biological,

²⁶ Related to classification of diseases

social, cultural, and political factors. For example, environmental effects and experiences, in conjunction with biological and genetic markers, are more and more considered relevant to autism (Verhoeff 2012; Wright et al 2014). Another response to this biomedical model that emerged in the 1990s and continues to gain momentum is the concept of 'neurodiversity.' This idea upends conventional accounts of autism and argues that perceived social and communication 'deficits' are simply differences that make up a 'valid identity that ought to be protected' (Silverman 2008, p.327). Originally coined by Judy Singer in 1997, 'neurodiversity' contends that neurological conditions like autism (and others like ADHD, dyslexia, bipolar disorder) are 'natural variations' and also that these differences are valuable and should be accepted and recognised (Jaarsma and Welin 2012, p.20). A rights-based movement of 'neuro-equality' has arisen around the concept, alongside many autistic people and writers (such as Jim Sinclair, Donna Williams, Lucy Blackman, Damian Milton, and Temple Grandin) who call for equal opportunities and treatment for those who are neurologically different. These challenges to a biomedical interpretation of autism have begun to result in shifting understandings about autism and a prioritisation of 'community' over 'cure' (Wright et al 2014).

In light of these different perspectives, this study suggests that accounting for the complexity of autism without seeing it as a biological disease or a social construction may be a useful approach. I recognise the multi-facetedness of autism and roles of social and material factors (Ochs et al 2004), yet I also attempt to avoid the assumptions about the nature and essence of autism present in other studies. Nadesen (2005, p.23) offers useful guidance on how to do this, suggesting that 'a more productive route would be to reject a search for the "truth" of how the body (or brain) "really is"' and instead focus on the 'becoming of the body-mind.' In this study, I pursue this line of inquiry, interested in how autism is enacted through social and material encounters and practices. I recognise there may be biological, genetic or neurological characteristics that affect autistic interactions with the social and material aspects of the worlds and seek to understand these relations rather than define the essence of those characteristics. This perspective of autism as neither an essential biological 'thing' nor a fully socially constructed phenomenon but rather an

intermingling of the two – is also utilised by a few scholars linking autism with more materially minded approaches like post-humanism or sociomaterialism (Murray 2008; Manning 2007; Moore 2014), but it still generally runs counter to much contemporary understanding, research, and scholarship about autism.

2.4.2 Understanding autism in interaction with the world

Given the importance of social interaction and communication in discussions about autism, significant research exists around how autistic people relate to and understand the world and other people. Humphrey and Parkinson (2006, p.76) state, ‘All individuals on the autistic spectrum share a common difficulty in making sense of the world.’ In particular, many studies consider how autistic people sense, experience, process, and respond to other people and things in their environments (Fletcher-Watson and Happé 2019; Haigh 2018).²⁷ Given the focus of this study, some discussion of autistic people’s relations with the world – in particular sensory, social and material relations – is valuable, and a selection of relevant literature is examined in this section.

Many studies have examined the sensory experiences of autistic people, which are reported as often being different to non-autistic people, widely variable among autistic people themselves, and changing over time (Haigh 2018). For example, some autistic people are hyper-sensitive or hypo-sensitive to touch or visual detail or sounds, but these will vary between individuals and can be context-specific. Haigh (2018, p.603) offers examples of this complexity, showing that autistic individuals have demonstrated normal or superior auditory processing in certain conditions (from original studies by O’Riordan & Passetti (2006); Bonnel et al (2010); Stanutz et al (2014)) but can also ‘show deficits when processing complex speech sounds’ (original study from Samson et al 2011).

²⁷ Some, for example, examine communication cues or interaction like atypical eye contact or eye gaze, reportedly common to many autistic people (Grossman et al 2019).

Other studies consider senses in different domains and include ‘internal’ senses like interoception, proprioception, and vestibular systems.²⁸ For example, Fletcher-Watson and Happé (2019) summarise research showing that autistic people may experience some internal sensations – including hunger, pain or placement of the body in space – differently than non-autistic people. Many studies related to sensory experiences focus on a single sense, which Pink (2012, p. 3-4) suggests does not adequately reflect human’s multisensorial experience. Instead, she posits that the senses should be ‘understood as interconnected’ and ‘the way we know the world is not dominated by any one sense.’²⁹ Erin Manning (in an interview by Evans, 2018) extends these detailed looks at sensory perception and autism to suggest a concept called ‘autistic perception,’ in which autistic people perceive emergent processes of the world rather than seeing objects and subjects first. She explains: ‘Autistic perception dwells in the interstitial, perceiving the process itself ... [it] troubles categories, feeling-seeing the world coming into itself.’ Such a conceptualisation supports the approach of this study and its interest in emergent relations.

Research does also suggest a link between sensory experiences of the world and cognition, and Haigh (2018, p.602-605) proposes that complex sensory processing may limit ‘the amount of signal that can be used to interpret and interact with the environment,’ resulting in some of the other characteristics associated with autism like difficulties with social interaction or cognitive processing. It may be particularly so for young people with autism, who are also seen to be more likely to have fears and phobias or responses to sensory stimulation (Lydon et al 2014). Therefore, acknowledging sensory experience could aid a better understanding of the richness and challenges autistic people experience.

²⁸ Interoception refers to internal physical sensations, like hunger, pain and tiredness. Vestibular and proprioceptive systems relate to bodily spatial positioning. For more, see Fletcher-Watson and Happé (2019) and Alper (2018).

²⁹ This aligns with descriptions of senses from ethnographic studies in other cultural contexts and also recent advances in neurology that suggest our senses interact more than previously thought (Pink 2012; Cytowic 2010).

As suggested in the previous section, extensive psychological and cognitive research has attempted to theorise and understand autism.³⁰ Much research has focused on attempting to explain the ‘core deficit’ of autism, and three main cognitive psychology explanations attempt to do this: weak central coherence, impairment of executive functioning and a deficit in ‘theory of mind’ (Solomon 2010). In this research, I will examine the concept of ‘theory of mind’ more specifically as it is the theory most attuned to considering recognition and relations with the world so is relevant to this study (Frith 2003; Baron-Cohen et al 1994; Russell 2013). Theory of mind relates to a person’s ability to recognise that other people have mental states and understandings that can be different from their own. In simpler terms, theory of mind refers to considerations of other ‘people’s wants, beliefs, knowledge and emotions’ (Wellman 1994, p.11). Evidence from a number of psychological studies has suggested that an impaired theory of mind – also called ‘mindblindness’ – is a core component of autism, which has been further linked to the social communication impairments linked to autism (Baron-Cohen et al 1994). The concept of theory of mind is closely related to the concept of empathy, which itself has recently grown in interest and importance and has been called by Baron-Cohen (2006, p.536) ‘among the most important of human characteristics.’ Empathy, while also about recognition and relation to others, is seen to be slightly different to theory of mind, as it is ‘not so much on the other’s state of knowledge as on the other’s situation, emotional state and needs’ (Waal and Ferrari 2012, p. 129).

Suggestions that autistic people have an impaired ‘theory of mind’ and limited empathy (Frith 2003; Baron-Cohen et al 1994) have also been challenged. Many autistic people, as well as researchers, state that autistic people do indeed experience empathy – though possibly outside the empathic connections with *humans* or in ways it might not conventionally be recognised (Williams 1998; Grandin 2006; Fletcher-Watson and Happe 2019). For example, well known autistic woman Temple Grandin (2006) suggests that she, like other autistic people, has emotional connections and understandings with other species and that her

³⁰ Fletcher-Watson and Happé (2019) provide a comprehensive overview of the current state of this psychologically oriented research of autism in their recent book *An Introduction to Autism*.

development of empathy is aided by tactile sensations, not just abstract emotional conceptualisations of others. McDonagh (2013) also questions the emphasis on one-to-one relationships inherent in the theory of 'mindblindness.' He suggests that considering relations within social groups or material and sensory environments might also be fruitful: 'We should ask whether this "empathising through one's senses" might count as a form of empathy' (p. 36).

Lastly, autistic scholars like Milton (2012) challenge and flip the debate, asking non-autistic people to consider their own assumptions and roles in understanding and researching autistic people – in essence, their own empathic responses. Milton developed the concept of 'double empathy' and argues that 'empathy' is a two-way street in which non-autistic people may equally struggle empathising or relating to autistic people. Perhaps, he suggests, non-autistic people – sometimes called 'neurotypical' – also have an empathy problem. As an ethnographer this is an important reflexive question for me to consider and recognise – what are my own responses to and understanding of other's experiences and perceptions? How can I as a so-called neurotypical person, recognise and relate to autistic sensibilities or autistic perception? I return to these considerations in discussions around methodology in Chapter 4.

In summary, what characterises the current state of understanding autism seems to be a 'ubiquitous uncertainty' (Hollin 2017, p.210) – from what it is to its cause/s and reasons for increasing prevalence. While the dominant narrative sits within the biological model of autism that requires intervention and treatment, an expanding range of voices are challenging that characterisation. How this uncertain phenomenon is understood in different environments – and particularly natural and educational ones – is examined next.

2.4.3 Autism and encounters with the material – and natural – world

The detailed discussion on theory of mind and empathy above is important because it provides a point of departure for considering how autistic young people might

relate to different environments. While 'theory of mind' framings prioritise social recognition and awareness, others propose a wider range of relations that autistic people may have with their worlds. Indeed, some scholars like Manning and Massumi (2014), suggest that 'mindblindness' is not a disconnection or lack of relation but rather demonstrates listening to humans and non-humans without preference or discrimination. They suggest that autistic people may have a 'flatter' relationship with the world, in that there is more equal attention and value given to both material and social worlds. Other research from different fields have shown that autistic people often demonstrate affinity or connection with objects or material things (Reddington and Price 2018; Iannacone et al 2018; Kennett 2002). These relations ask compelling questions about existing emphases on the atypical social interaction that characterises autism as 'disorder.' As Bingham (2006, p.487) suggests, 'there is no reason to think that ... we have to conceive social life simply in terms of relations between people, but instead can revision it in terms of relations between people and things, recognizing that it is always coproduced.'

In light of this discussion, interesting questions emerge when considering autistic learners' connections with the natural environment. How might encounters in a natural environment play out for autistic people? Research and autistic accounts have suggested connections between autistic people and animals (Kahn 2011; Grandin 2006), but connections to natural environments have not been extensively researched, as previously suggested (Blakesley et al 2013). Related scholarship also offers insight into societal assumptions about autism, in its use as a metaphor to represent disconnection. Louv (2005) actually suggests that human disconnection from nature more broadly may lead to 'cultural autism.' By this he takes 'autism' to equate to a lack of connection or relation to nature, a suggestion that seems rather ironic when considered alongside Manning and Massumi's (2014, p.4) view that autistic people may actually lean further towards 'engagement with the more-than-human' rather than be disconnected from it.

2.4.4 Autism and education

Rising numbers of autism diagnoses have subsequently impacted education, as numbers of autistic children and young people are reportedly rising in UK schools faster than any other diagnosis or impairment (Barnard et al 2002; Parsons et al 2011). In 2017, autism was reported to be the most common requirement for students in England with an education, health and care plan (EHCP), which is the statutory documentation required for any students who seek additional support in education (APPGA 2017). The latest figures from the Department for Education (2019) show that 29% of students in England with an EHCP have autism as their 'primary need,' and this has been rising slightly in recent years.³¹ The majority of autistic students attend mainstream schools, while nearly 30% of students with an autism diagnosis attend special schools in England (ibid). There are ongoing debates related to the differences of mainstream or special settings for autistic children and young people. Some suggest that specialist provision can offer more appropriate support and lead to greater gains (Reed et al 2012), while a national focus on inclusion of disabled children into mainstream environments means that many autistic students are taught alongside their non-autistic peers.³² This is not without difficulty though as there are many reported challenges of supporting these students in mainstream settings, like poor understandings of autism, insufficient support, and mixed responses from autistic pupils (Ravet 2009; Goodall 2018).

A significant body of research exists in relation to the educational experiences of students with autism and often demonstrates that these students face more challenges and have poorer outcomes than students who are not autistic. Conn (2019) gives an overview of these studies, showing that autistic pupils face high levels of bullying, are at greater risk of exclusion and often have poor educational outcomes. Regardless of whether students are in mainstream or special settings, some aspects of education are seen to be particularly challenging for autistic

³¹ It is important to note, however, that not all autistic students have 'special educational needs,' nor do all autistic people have learning difficulties (Humphrey and Parkinson 2006).

³² 'Inclusion' itself is a complex concept with a significant body of research behind it. For a good overview of inclusion in relation to autism, see Ravet (2009).

students. For example, Batten (2005) posits that autistic children and young people find transitions between school levels particularly difficult, as routines and patterns are often considered helpful in reassuring and reducing anxiety in autism. Goodall (2018) found that some autistic students in his study felt anxiety at the lack of predictability and routine in the sensory and social environment of mainstream educational settings. Jordan (2008, p.13) also discusses how ‘teaching students with ASD is hard ... just as these students have no natural intuitive ways to understand their teachers, teachers, in turn, have no natural intuitive ways of understanding students with ASD,’ which resembles earlier discussions of Milton’s (2012) concept of ‘double empathy.’ In considering education’s role in supporting autistic children and young people, Jordan (2008, p.11) argues that education is often seen as treatment for autism, but it should also be more than that and include values, knowledge and skills that offer a ‘gateway to full social inclusion.’

Extensive research has been done on developing different approaches to supporting autistic children and young people in education, and many different interventions have been developed and are used in educational settings (Humphrey and Parkinson 2006). Parsons et al (2011) describe many of these techniques and interventions, including structured, behavioural-based tasks, video-modelling procedures, social stories, picture-based learning approaches, and play. What education offers for autistic children and young people evokes philosophical questions related to earlier discussions around disability and associated models. Shyman (2016, p.366) summarises this nicely: ‘The field of educating individuals with Autism Spectrum Disorder has a rich history of practical controversy, contradictory claims of dominant territoriality and effectiveness of intervention, as well as competition for dominance over the accepted conceptualisation of the condition itself.’ Perspectives on the preferred educational provision for children and young people with autism vary in relation to assumptions about what autism ‘is.’

Shyman (2016) suggests that the educational approaches fall into different camps – behaviourist and humanist – that are examined in some detail below. Behaviouristic approaches are oriented to changing individual behaviour primarily through external

motivation, and one of the most commonly used such interventions in autism education is called Applied Behavioural Analysis (ABA).³³ ABA was developed by Ivar Lovaas in the 1960s and 1970s and is an educational approach that uses reward and punishment to change certain behaviours in small steps (Fletcher-Watson and Happé 2019; Virués-Ortega 2010). Early claims of these often-intensive interventions were that they could lead to ‘virtual “recovery”’ of autism and such claims combined with parental pressure have led to these interventions becoming prominent features of many educational settings involving autistic students (Jordan 2008). ABA interventions are wide-ranging but usually contain certain features: they can start in early life; are time-intensive (20-40 hours a week); are individualised and delivered in a 1:1 capacity; are guided by normal developmental behaviours and involve parents as co-trainers where possible (Virués-Ortega 2010). ABA interventions have been the focus of many studies, some of which have shown promising effects on improving ‘intellectual functioning, language improvement and adaptive behaviour’ (Virués-Ortega 2010, p.397). However, conclusions about its effectiveness are difficult to comprehensively understand, as studies employ different methodologies or intervention features (ibid).

ABA approaches have faced significant criticism from other angles. Shyman (2016) argues that ABA approaches align with the medical model of disability and intend to shift the individual towards ‘normality’ and ‘normalising’ behaviour. Nolan and McBride (2015) state that ABA strategies often target repetitive self-stimulation (also known as ‘stimming’) behaviours like rocking or hand flapping and suggest that restricting ‘stimming’ behaviour reinforces autism as disorder and is unproductive. Critics also question the long-term and holistic benefit of the interventions. As Rodogno et al (2016, p.401) state,

interventions to modify the behaviour of autistic people are only justified if they confer benefit on those people’ and that furthermore depends on how ‘beneficial’ and ‘well-being’ are defined. Such philosophical questions are not

³³ Such approaches are usually based on assumptions that learning happens in response to specific stimuli and with immediate reinforcement, often via rewards (Humphrey and Parkinson 2006).

usually recognised in behaviour-based interventions, which are more attuned to treatment and outcomes that move towards ‘normalisation.’

In contrast, Shyman (2016, p.366) suggests that humanistic approaches to education of autistic students are ‘more adaptable, person-centred, relativist, holistic and oriented around both internal and external motivation.’ Such approaches would align with advocates for the social model of disability and neurodiversity, who move a focus from cure to acceptance or recognition and response to autistic traits. Other commonly used strategies to educating autistic students such as Treatment and Education of Autistic and Related Communication Handicapped Children (TEACCH) align more with a humanistic approach, recognising individual students’ characteristics and abilities to implement routine-based, visually oriented educational programmes (Humphrey and Parkinson 2006). However, Shyman (ibid) also acknowledges that the binary he suggests between behaviourism and humanism does not really reflect more nuanced practices and the complexity of what actually happens in educational settings.³⁴

Returning to the focus of this study, there is also a paucity of research on autistic learners’ experiences in the natural environment, as suggested in Section 2.3.4. Little research in this area exists, and what does has tended to focus on perceptions and experiences of teachers or parents rather than the actual experience of autistic children (Blakesley et al 2013). There is relevant writing around more informal learning activities, such as autism and forest schools (James 2018), physical activity and education (He and Jespersen 2015), or outdoor adventure programmes and activities (Zachor et al 2016; Chang and Chang 2010). But little empirical research exists in relation to school-enabled experiences for autistic students in natural environments. Those mentioned above also primarily consider benefits (and, in particular, therapeutic ones) of being in natural environments, rather than

³⁴ Furthermore, Humphrey and Parkinson (2006) note that the effectiveness of these different interventions are hard to know for certain. Many evaluations or studies of approaches like ABA and TEACCH have shown positive effects on different characteristics but the studies often do not account for confounding factors, making it difficult to attribute any effects to the actual approach itself.

examining what actually happens in these activities. A Natural England review of the benefits of engagement with the natural environment for autistic children concluded that significant research is needed in this area, particularly to generate evidence for improved future outdoor learning opportunities and improve practice for the wide variety of autistic children and young people (Blakesley et al 2013). This study hopes to go some way to addressing this significant gap and exploring what happens when four autistic young people have encounters in and around the outdoor natural environment of a farm.

As suggested in this section of the review, this research joins a wide, inter-disciplinary set of scholarship on autism and disability. Across the breadth of research related to autism, there has historically been a dominant focus on understanding individual ‘abnormality’ or ‘atypicality,’ and prevention or treatments that might help people be more ‘typical’ (Wright et al 2014). Much of this research compares a ‘neurotypical’ control group with an autistic one using experimental and quantitative methods that often do not account for the contexts in which such activities take place (Humphrey and Parkinson, 2006). More recently, social science-based disability and autism research has involved more qualitative accounts of broader life experiences of autistic people (Ashby 2010; Goodley, 2001; Solomon 2010), and seminal journals in the field like *Autism* have recently called for a recognition that ‘qualitative research is ... as important as quantitative research (Bolte 2014, p.68). Increasingly, research has begun to involve participation of autistic people themselves, though there remains a tendency to involve parents, support workers, or ‘high-functioning’ autistic people (Beresford et al 2004; Wright et al 2014; Arnold 2010).³⁵

³⁵ More involvement of autistic people in studies about autism is increasingly seen to be important. This can be seen in the second edition of the important *Introduction to Autism* by Fletcher-Watson and Happé (2019; the first edition was authored by Happé, published in 1994). This second edition carefully examines the current state of knowledge about autism from a psychological perspective and it also integrates this with narratives and personal accounts of autistic people in each chapter. The inclusion of these autistic voices in research is not just a matter of representation but also a recognition that such involvement can help create a ‘language in which to describe the experience of autism,’ and ‘forge the concepts in which to think autism’ (Hacking 2009, p.1467).

In this study, I do not seek to compare autistic young people with their non-autistic peers nor do I draw on a medically based conception of autism as an internalised biological deviation from the norm nor do I see it as a social construction. This study does not discount either the biological/material or social aspects of autism but, importantly, does not consider them to be deterministic. Instead, I aim to understand everyday, lived realities related to autism, a focus that is suggested to be an important contribution to autism research. Singh and Elsabbagh (2014, p.755) state that priorities in autism research ‘need to expand to reflect the complexity and lived experiences of those affected by autism,’ and Pellicano et al (2018, p.82) state, that research on ‘everyday realities of autism ... is very much welcomed.’ This focus goes a small way to redressing the imbalance of autism research in the UK and globally, where the bulk of funding and attention focuses on biology, brain and cognition studies rather than lived experience or how to develop appropriate provision and services (Pellicano et al 2018).

2.5 Summarising the review - gaps in research and this study

As demonstrated throughout this review, this thesis joins a vast body of multidisciplinary scholarship on autism, youth, and natural environments. In bringing together this overview of the relevant fields, I have also highlighted other underexplored areas my own study considers. Firstly, this study will examine learning experiences in the natural environment for people with autism, a pairing that is under-researched (Blakesley et al 2013). More broadly, this study looks to better understand these practice-based relations between the people and the natural environments in ways that go beyond seeing them as separate entities that might offer intrinsic benefits, like assumptions about nature’s unquestioned therapeutic or harmful effect on its human inhabitants.

In this review I have also shown how the different topics – young people, autism, and nature – have contested meanings in similarly dissonant ways. That is to say that they are conventionally understood in humanistic, binary terms. For example, is autism a neurodevelopmental disorder that is genetically predetermined? Or is it

socially constructed by assumptions about what is 'typical'? Is 'nature' a pre-existing reality or one that emerges through cultural and social practices? Are childhood and youth determined by developmental milestones or produced through social relationships and understandings? Are young people fully formed beings with voices and experiences of their own – or are they yet becoming into their future selves? These deep differences show what Taylor (2013, p.xvii) calls a 'schism' between 'polarized camps of nature or culture.' They demonstrate the long-standing dualities between ideas of objectivism (or a world that exists independently of us) and subjectivism (suggesting a world inseparable to us that is constructed through our representation of it). Highlighting these tensions is salient to the theoretical framing and methodology of my study as they show a common thread in the ways that youth, autism/disability, and nature are often understood as essentialised entities. Furthermore, this review has also shown a growing recognition of how these phenomena might be seen in another way – not just in terms of their material elements or social constructions but in the places where those things entangle.

In this study, natural environments, youth, and autism are considered through a sociomaterial understanding of the world, rather than one that considers the world to be made up of separate biological individuals or as a social and cultural construction (Ingold 2013). And rightly so, if we agree with Solomon (2010), who positions autism as a phenomenon at the intersection of biomedicine and social science. To approach the study in this way, I require a theoretical set of resources that is adequate to the task of understanding the world as enacted through a mixture of agential biological/material factors and their relationship with the social world around them. The following chapter identifies and lays out such resources.

Chapter 3: Framing the study with sociomaterialism

3.1 Introduction to Chapter 3

This chapter begins by explaining what sociomaterialism is and why this approach is useful for this study. I then describe the different theoretical resources related to sociomaterialism that I have drawn from in undertaking this study – specifically, actor network theory, multiplicity, and practice theory. I conclude the chapter by restating the study's aims and discussing the research questions.

3.2 Introducing sociomaterialism

A sociomaterial theoretical approach is used in this study. Orlikowski (2007, p.1437) defines sociomateriality as when 'the social and the material are considered to be inextricably related – there is no social that is not also material and no material that is not also social.' The convention to fuse the words social and material in 'sociomaterial' demonstrates the interlinked relationship between the two (Leonardi 2013). Orlikowski (2007, p.1437) calls this relationship 'constitutive entanglement' in which neither social aspects nor material ones are privileged as more important than the other. Rather, they are intertwined and co-emergent. 'Materiality' is, Fenwick et al (2011, p.vi) suggest, 'tools, technologies, bodies, actions and objects.' More and more attention is being paid to the role of the material world across the social sciences, in movements and theoretical framings such as new materialism and post-humanism (Bennett and Joyce 2010; Coole and Frost 2010). What such approaches have in common is a shift in attention from the human figure as separate and dominant over nature or other aspects of the world to one which recognises the active role that materiality plays (Castree and Nash 2006).

This 'material turn' has also been seen in recent approaches to educational research (e.g., Fenwick et al 2011; Sørensen 2009; Soderstrom 2014), which have been said to recognise the relevance of the 'concrete sociomaterial arrangements in which teaching, learning and development occur' (Kontopodis and Perret-Clermoung 2015,

p.2). However, a focus on materiality is still unusual in the 'widespread humanist approach to education,' which centres around understandings and activities of humans and human development as separate to or in spite of the material world (Sørensen 2009, p.2; Fenwick et al 2015; Fenwick et al 2011). It is this separation between humans and the material world that sociomaterialism bridges, placing humans among the materials rather than separate from or above them (Sørensen 2009). This perspective asserts that humans use materials, but that these things also influence and change humans and practices (ibid). Understanding that the material world, comprised of both living and non-living things, is active and agential is a fundamental aspect of this theoretical position. Its ontological position is relational, in that things *are* in their relations and therefore epistemologically can be only known in these relations and not as distinct entities (Hultin 2019).

A sociomaterial approach offers tools and insights that recognise the role that both humans and the material world play in encounters in the process, bypassing biomedical or social constructivist perspectives as discussed in relation to autism and childhood/youth in Chapter 2. A sociomaterial approach is valuable for this research because I recognise, given the review of existing literature, that humanistic assumptions or definitions of the phenomena under study do not tell the whole story. This approach offers a way beyond whether biological or social factors shape development by acknowledging a far more complex understanding of reality. As Orlikowski (2007, p.1437) states, 'What is particularly valuable about such developments is their insistence on speaking of the social and the material in the same register, and of not reverting to a limiting dualism that treats them as separate (even if interacting) phenomena.' Sociomaterial frameworks have also been seen to be useful for working through conflicting models of disability, as they can help consider both the embodied and social characteristics of an experience (Galis 2011). In this vein, they can enable a better understanding of the spatial and material interactions people have in relation to certain environments (Freund 2001).

Furthermore, advocates for sociomaterial approaches such as John Law (2003, p.3) argue that they support important and useful methods that are not 'caught in an

obsession with clarity, with specificity, and with the definite.’ These approaches and methods do not try to tidy up the complexity of the world to make it ‘clean and neat’ as some contemporary social science methods might (ibid). Instead, Law argues, they help us to become more comfortable with ‘mess.’ Rather than trying to fit the world into measurable things, he suggests we try living with the recognition that what we study might be a ‘shape-shifting reality’ (ibid, p.5). This characterisation resonates with the framing of this study. I do not set out to define or measure unchanging truths about autism or the natural world, but rather to examine the complexities of the everyday practices that bring these into being. The phenomena under study have been shown to be complex and uncertain, and this theoretical framework makes allowances for such a reality and seeks to better understand it.

3.3 Sociomaterial approaches used in this study

There is not one formulaic way to apply sociomaterial framings to research, and Fenwick et al (2011) outline a number of different approaches. What follows is a look at aspects of three different theoretical resources that I use in this study: actor network theory, multiplicity, and practices.

3.3.1 Drawing from actor network theory

Actor network theory (ANT) is a sociomaterial approach that provides a useful sensibility for this study. ANT has been described as ‘tools, sensibilities and methods of analysis that treat everything in the social and natural worlds as a continuously generated effect of the webs of relations within which they are located’ (Law 2008, p.141). Many of its scholars argue that ANT is actually not a theory, a point Barry (2013, p.417) elaborates, suggesting that ANT is not meant to be a theory used to generalise across contexts but is rather an ‘approach that has always had to be adjusted’ in different contexts. In this study, ANT firstly offers a way to reconsider existing categories, binaries, and assumptions about the nature of phenomena. Since its introduction in the 1980s by scholars like Michel Callon, John Law, and Bruno Latour, ANT has been used widely in the social sciences to counter both constructivist and realist ontologies that see ‘nature’ and ‘society’ as assumed

categories (Fenwick and Edwards 2010). An ANT sensibility posits that entities are constituted or enacted through action and that nothing exists independent from its network/s – '[entities] are formed and are adjusted only during action' (Callon 1984, p.201). This premise disrupts the assumed stability of things and phenomena and suggests that an entity's coherence or strength is due to the durability of the relations and network it is part of, rather than some inherent qualities it possesses. This is a useful concept in this study, as it aids me in re-examining the phenomena in this study, which as discussed in Chapter 2 are often considered to be stable or fixed entities in problematic ways.

An ANT approach is furthermore valuable in disrupting notions of dis/ability. Winance (2016, p.103) discusses what it offers to disability studies, by taking 'disability' from something inside an individual to a quality that is enacted in relation:

Suspending any a priori categorization, it makes it possible to show that people, their qualities, their characterisations and their (in)abilities are defined in terms of relationships ... In this conceptualization, the single standard of the autonomous subject disappears, leaving room for the diversity of types of subjectivities that make up people and the differences between them. We are all more or less able, but in a specific and situated, concrete way.

In addition to disrupting existing assumptions about phenomena, ANT also emphasises the role of materiality in the world, and it is concerned with how objects and materials – as well as humans – become part of networks and practices. This results in ANT's assertion of a 'symmetry' of action between both human and non-human entities, and ANT studies examine material entities such as bodies, objects, or technologies with the same attention they give to human and social counterparts. ANT can be challenging to transform into research methods, but scholars like Fenwick and Edwards (2011) and Sørensen (2005) have used ANT within education research. In so doing, they have discussed how ANT approaches help slow down

analysis in order to pay attention to detailed everyday particulars, even mundane ones and especially material ones. These methods emphasise descriptions of unfolding realities rather than ascribing explanatory meaning to practices or behaviour. One commonly used ANT-related method or tool is 'tracing' – or following – actors, which allows researchers to examine dynamic relations within different networks and what becomes visible in them (Sørensen 2005; Barry 2013).

While the elements of ANT described above provided a valuable starting point for developing a sociomaterial sensibility for this study, I also came to realise its limitations. Many applications of ANT studies have focused on understanding specific material objects or technologies during processes like construction or as an intervention, while the aim of this study is to examine the enactment of a complex phenomenon of the body situated in a particular environment (Sørensen 2005). Moreover, ANT has been seen to be reliant on fields like information theory or semiotics and less used in relation to the materiality of the body (Barry 2013). More recently, Winance (2016, p.104) has suggested that ANT also does not account for issues of inequality and 'dilutes differences in its specificity,' meaning that in its emphasis to describe each specific set of relations and networks, the differences between these specific experiences (say of a disabled and a non-disabled person) can become 'silenced.' While acknowledging these limitations, the flexibility of an ANT approach meant that I was able to draw on its sensibilities as useful in adapting to my research context. It supported me to turn my attention to the role of the material world as well as the human one and to observe *what and how* – rather than *why* – things happened. What I also needed, in addition to this, were conceptual tools to support the study of the phenomena of autism, youth and nature that were reviewed in the previous chapter to be heterogenous, uncertain, multiple and involving bodies. For this, I turned to the work of Annemarie Mol.

3.3.2 Considering multiplicity

Given the emphasis in the literature on the heterogeneity of autism and its embodied manifestation, I needed a framing that helped me consider a physical condition as more than a single entity. What if there were actually multiple versions

of autism produced in these experiences? While ‘multiplicity’ is a concept used by different theorists, the use of the concept in this study was inspired by the work of Annemarie Mol in her 2002 book *The Body Multiple*, about her ethnographic study of atherosclerosis in a Dutch hospital.³⁶ ‘Multiplicity’ in this study was understood to be about ‘coexistences at a single moment’ (Law and Mol 2002, p.8).

Mol (2002) and colleagues observed atherosclerosis in different settings within one hospital across a four-year period. They found that instead of one single condition residing inside the body, atherosclerosis was better understood as a series of different (and often competing) versions enacted in different places and through different practices – from the clinic to the pathology lab to patients’ homes. She summarised the book’s main argument as this: ‘diseases, bodies, realities, come in *versions*’ (2016).³⁷ Mol explicitly chose the word ‘enact’ to describe how reality developed as it ‘suggests that activities take place – but left the actors vague. It also suggested that in the act, and only then and there, something *is* – being enacted’ (Mol 2002, p.33). I found the concept valuable in its connotation of a constant reshaping and coming into being, and therefore useful in discussing observations about autism in the natural environment in this study.³⁸

This multiplicity of realities in practice, argued Mol (2016), breaks from common arguments in Western traditions that ‘there is only a single reality and that we should strive after telling the singular, univocal truth about it.’ This again resonated with earlier arguments that challenge the idea that phenomena like autism, nature, and youth are ‘things’ with fixed essences and sought-after truths. In her study, Mol strove to find out what atherosclerosis ‘is’ but recognised the ‘*is*’ in that statement was not fixed but was instead situated – in different rooms, through different

³⁶ Mol’s study of multiplicity is in fact a re-formulation of ANT (Barry 2013).

³⁷ All references from Mol (2016) are from her translated foreword to the Japanese version of *The Body Multiple*. The English translation to the foreword is found at this website: <http://somatosphere.net/2016/10/juxtaposition.html> (Accessed on 9 November 2018).

³⁸ Mol (2002, p.41) went on to say that she prefers ‘enact’ to other words often used by those theorizing social change, like ‘construction,’ ‘production,’ or ‘performance,’ which she argued have too much history and suggestion behind them to be useful.

conversations, even in representations like text and x-rays. As she said (2002, p.54), 'The new "is" is one that is situated ... To be is to be related.'

Mol (2016) contended that the multiplicity she observed was not regularly acknowledged or attended to by others, and that this was problematic:

[T]his multiplicity tends to be hidden. If it were recognized, we might ask upfront *which* version of reality to live with *when* and *where*. As it is, this question is not dealt with overtly and in so many words. Instead, it is all too often answered by stealth. And we end up with practices because they happen to be the oldest, the most profitable, the cheapest, the easiest to publish about, the most routinized—and so on. And not necessarily with the practices that are most agreeable to patients and that best help them to live their daily lives ...

Considering multiple ontologies or versions of a phenomenon also moves the discussion away from epistemological questions about whether descriptions and explanations of things are accurate representations or not (Mol 2002; Pickering 1993). Rather than seek out the singular truth of something, her study attended to how practices and relations brought together or dissolved realities. Mol described her study as a praxiographic rather than an epistemological one, which means it was more concerned with how atherosclerosis (and, in my case, autism) was practiced than seeking a singular truth about it.

Importantly, 'multiple' in this framing did not mean infinite. Mol (2002) clarified there were not an infinite number of practices or events in a single hospital or school site – though a researcher may still not be able to practically observe or note what was there. Additionally, the incoherence of having multiple versions of a phenomenon did not necessarily mean they were incompatible, nor did it mean they were disconnected entirely.³⁹ They were neither separated nor unified – they were

³⁹ Mol (2002) draws from Strathern (1991) who makes a similar point by stating that a person may be both an anthropologist and a feminist. The two identities influence each other yet are still unique.

instead 'partially connected.' These concepts offered a useful framing for my study – what possible multiple versions of autism existed in these practices and encounters and, as a follow up, how might they be partially connected?

Examining phenomena as different versions offered me a way to examine things considered to be complex, uncertain, or 'mess' as Law (2003) calls it. Fenwick and Edwards (2011, p.723) argued that this consideration of multiplicity 'opens a rich new approach to appreciating fundamental differences afoot and to exploring the patchings that are enacted without attempting to impose false coherence.' This framing allowed me to examine how different versions of a phenomena like autism or a natural environment intersect and collide, sometimes cohering and at other times conflicting.⁴⁰ Mol (2002) considered how this incoherence could be handled too. She suggested that some practices or objects can sometimes help maintain the singularity of an entity or body, sometimes by translating ways of seeing or measuring different versions of that entity, all in an effort to maintain or develop coherence.

Throughout her study, Mol (2002, p.85) resisted the temptation to use explanatory systems or frameworks. Instead, she explicitly argued that her philosophical approach did not use systems, discourses or culture as overarching frameworks that define how things 'hang together' in a place. She instead stuck to describing the sociomaterial ways that partial connection happened. Mol's purpose was to understand the multiplicity of a single bodily phenomenon and also 'the coordination of this multitude into a singularity' (ibid, p.82). A similar approach in my study could aid in understanding if and how multiple versions of autism were enacted in the natural environment at the local farm and furthermore how the environment itself was also enacted. This approach offered me a way to consider autism through a lens of multiplicity that made space for the complexity that other accounts of autism suggest. It proposed that there was not necessarily one single

⁴⁰ Mol (2002) provides an example in her book – sometimes the pain described by a patient in the clinic matched the physical evidence of arteriosclerosis seen in the pathology lab. Other times, however, it did not.

‘thing’ that was autism, even one that was different between individuals. Rather, it opened possibilities that there may be different versions of autism enacted through different situated practices.

While Mol’s study was valuable, there were also differences between it and my own. The actual data from Mol’s study was in large part based on interviews or observations with patients about their own first-hand experience with atherosclerosis. Atherosclerosis was the focus of attention of both the study and any people involved, and their shared common goal was to treat it. My study did not presume autism was a ‘disease’ requiring treatment or cure but was rather looking at encounters of young people who already had a diagnosis of autism and who were in an environment for learning, not health-related concerns. The young people were autistic, but autism was not the main focus of the educational interactions studied in this research. Atherosclerosis is also visible in physical manifestations in x-rays and under a microscope, but autism is not. I recognised that its enactment may not be as visible or easy to observe and may not be the obvious focus of observed practices or interactions.

Furthermore, the students also had other physical diagnoses, health requirements and personal characteristics that impacted on their interaction in the learning environment, so identifying autism as distinct from other health or physical characteristics was not possible. This was also presumably true in Mol’s study and is in sync with a sociomaterial framing that would caution against defined boundaries of such a thing as autism anyways. Understanding autism alongside these different characteristics makes, as Solomon (2010, p.248) states, ‘seeing’ autism is particularly challenging, something I recognised in this study. I also acknowledged that while this study examined autism, many other characteristics of the young people and staff lives influenced the practices I observed and were themselves enacted in these practices – age, gender, cultural knowledge, race and ethnicity, among others. I have only focused on four individuals in this study and, while I recognise that their gendered, social, and cultural identities will have played a role in their lives, I did not attend to it specifically as an analysis focus as I did not want to generalise. There

were instances where these aspects did arise – for example, in practices involving food and diet restrictions due to religion and/or culture – and I attended to them individually there.

Additionally, first-hand accounts of participants' bodily experiences such as those in Mol's study were less possible with the young participants in this study, some of whom did not use verbal communication. I recognised that there may then be fewer instances of the naming and defining of autism as well as fewer first-person accounts. However, this did not preclude the approach as useful, as what I could look for in the detailed observations was where autism became visible and how it was shaped, held, and changed in different locations and through different practices. Taking such a perspective offered a way to see what possibilities and spaces might open up in the outdoor natural environment of the farm, with the recognition that autism was not always one thing nor was it the same thing from day to day.

3.3.3 Studying multiplicity with a focus on practices

The previous section explained why examining 'multiplicity' was useful in this study, and I now turn to a more practical question – how could I know and study multiplicity? In *The Body Multiple*, Mol (2002) examined multiplicity through careful, detailed mapping of the *practices* linked with atherosclerosis – *how it is done* – rather than studying atherosclerosis itself. This attention to practice shifted the research away from a focus on individuals towards one that highlighted the sociomaterial relations. Mol (ibid, p.5) contends that 'foregrounding' practices makes visible *what is done* and how phenomena – a place, an object, autism – are enacted. If these practices stay 'bracketed' or unseen, then the bodily phenomenon stays within the body – or in this case, perhaps within the brain, genes, or autistic behaviour. Paying attention to the practices instead enables an examination of how the phenomenon takes shape and comes into being through these practices, including beyond the body itself. Examining entities through the practices they are part of also demonstrates the ways they may differ and be multiple. It is 'in practice,' that the multiple versions of a phenomenon – in Mol's case atherosclerosis, in this case autism – could be observed. Such an approach allowed me to see how autism,

young people and natural environments were made visible, brought into being – how they were enacted.

Before further discussion, I will explain what is meant by ‘practices’ across the research literature and then specifically for the purposes of this study. This investigation of practices has become an increasingly common way of examining the social world (Schatzki 2001; Pink 2012). There are many different conceptualisations of ‘practice’ but broadly speaking ‘practices’ are defined by Schatzki as ‘arrays of activity’ (2001, p.11) and also ‘a temporally and spatially dispersed nexus of doings and sayings’ (Schatzki 1996, p.89). Other scholars have attempted to further clarify what ‘practices’ might mean for empirical research purposes. Reckwitz (2002, p.249) perhaps more plainly described a practice as a ‘routinised type of behaviour’ that consists of actions between different elements, including bodies, things, knowledge, and emotion. It is, as Pink (2012, p.16) succinctly says, ‘a descriptive term that refers to things people do.’ Shove et al (2012) further clarified the concept as a ‘conjunction of elements,’ adding that practices become more enduring as they are performed.

In this study, I drew from these conceptualisations and used ‘practices’ to mean the regular ‘doings’ I observed that were made up of configurations and connections between different sociomaterial elements. For example, some practices I observed were welcoming the class each morning, doing farm work, and eating lunch. The main frame for analysis I have used is related to practices, and I also acknowledge that practices are made up of different sociomaterial elements that relate to each other in different ways. For example, the practice of eating lunch was comprised of different actions or configurations between young people, food, plates, adults, tables, warm air in the polytunnel, knowledge about food restrictions, among other things.

Importantly for the purposes of this study, Schatzki (2002) also suggested that social life and practices are embedded within a context, which may or may not be an actual physical location, something he called ‘site ontology.’ Mol (2002, p.55) similarly

argued that ontology – the nature of reality – is aligned with ‘a specific site and situation.’ This helped me remind myself of the importance of ‘place’ in emergent reality, as discussed in Chapter 2. But I also took from this an awareness of how sets of practices can change from one context to another (eg, classroom to outdoor site), as in how a ‘site’ of special education is not location-specific but may contain certain practices that move or shift from place to place. These positions pose useful framings for my study, in examining autism as potentially enacted differently in specific sites and situations. In a single school, in one class period, in one session at the farm, there may be different ‘autisms’ and these may be enacted in relation to certain places. But, Mol (2002) also suggests that practices in a particular place may be cohering different versions too. It is useful then to consider how and where multiple versions, as Mol says, ‘hang together,’ in and across situated places (ibid). In other words, how does taking this group of students outdoors solidify, disrupt, or dissolve existing or new practices and how do these practices enact autism/s?

In summary, the framing of analysis through ‘practices’ is useful in this research as a way to move thinking ‘beyond current problematic dualisms and ways of thinking’ (Schatzki 2001, p. 10). Looking at the phenomena of autism, nature, and young people as sets of practices rather than through lenses of outcomes, achievements, benefits, or diagnoses helps shift from the binaries discussed in Chapter 2. As shown in that chapter, autism is a contested notion, often characterised as being diverse, heterogeneous, and uncertain yet still commonly discussed as a single entity. This contested space is precisely where this study is set, and it moves beyond an essentialist perspective to examine what autism ‘is’ through different practices in a natural environment of a farm.

3.4 Summarising the theoretical framing of this study

I did not begin this study through a sociomaterial framing, but I became more and more drawn to it in the early months of working on this PhD. I increasingly saw the value it offered in examining this area I was deeply curious about. The combination of theoretical resources I have used in this study reflects my own development in

understanding and engaging these new ways of researching – and ultimately becoming – in the world. As explained in this chapter, a combination of elements of actor network theory, multiplicity, and practice theory have been used to pursue this study's aims of understanding what happens when autistic young people are supported by schools to spend time in a natural environment and how autism is enacted in the natural environment of a farm. Actor network theory's rejection of a nature-society binary, emphasis on relations between the social and material, and focus on detailed description over explanation helped me devise a sensibility that focused on sociomaterial relations instead of individual human aspects. If, as suggested (e.g., Miller 2003; Manning and Massumi 2014), autistic people attend to material and social worlds without discrimination, ANT's attentiveness to both worlds in relation offered a particularly useful lens. I found these broad sensitivities of ANT valuable, as well as one of its permutations – an examination of multiplicity.

The concept of multiplicity helped me consider how autism might be enacted. It prompted me to ask how phenomena like autism and a natural environment might emerge differently through different practices, as well as how multiple versions might co-exist. To do this, I observed how and where autism was practised. Observing what autism, young people, and nature became in practice helped disrupt the ideas that they were simply single essential entities set in bodies or settings. Furthermore, a practice-based focus was also useful in terms of the study's outcomes, as imagining new and possible practices may be more fruitful than envisioning change within objects or individuals.

3.5 Research questions

In connection with an understanding of the existing knowledge in related fields (as discussed in Chapter 2) and alongside the study's theoretical framing (explained here in Chapter 3), I state here both my research aims and the research questions that guided this study. My research aims were *to understand what happens when autistic young people are supported by schools to spend time in a natural environment and*

how autism is enacted in and around the natural environment of a farm. The research questions were as follows:

What are the sociomaterial practices that characterise autistic young people's school-enabled experiences in a natural environment of a farm?

In pursuing this question, I focused on the practices I observed in relation to one specific natural environment – the farm that the class visited. The practices include those in the farm environment as well as those that led into and out of the farm so were situated in other places too.

How is autism enacted in these practices?

Here, I focused on how autism was enacted through and within the practices I had observed in and around the farm. I was particularly interested in where and how autism became visible through these practices and how possible multiple versions of autism were produced, held together, or fell apart.

Chapter 4: Developing and doing a sociomaterial ethnography

4.1 Introduction to Chapter 4

This chapter describes how I designed and conducted this study. It opens by introducing and providing a rationale for using an ethnographic approach and associated methods; explains the sampling approach and choice of field sites; describes the methods used for data collection and analysis; and explores some of the ethical considerations I encountered in the course of this research.

4.2 Choosing and using an ethnographic approach

While a case for using a sociomaterial framing for this study was made in the previous chapter, such an approach needs practical accompaniments of methods to conduct research. In a recent paper, Hultin (2019, p.91) suggested that while there have been ‘significant theoretical advancements’ related to sociomaterial conceptualisations, the methodological discussions have not kept the same pace. However, there has been an increasing set of accounts and discussions of *how* to use sociomaterial approaches in research that proved helpful for me as I designed and conducted the study (in particular, Sørensen 2009; Mol 2002; Fenwick et al 2011, Fenwick et al 2015) and also in the processes of writing up and reflecting on it (Hultin 2019; Grant 2017; Ruck and Mannion 2019). Approaching research with a relational ontology has implications on its epistemology and practices of ‘knowing’ the phenomenon being studied. It suggests that I know this world not at a distance or through representations but instead by participating in it – from a ‘direct material engagement with the world’ (Hultin 2019, p.93). I recognised my research design and methods must acknowledge and keep this in mind.

The dominant, de facto approach to sociomaterial empirical study is an ethnographic one (Gaskin et al 2014; Niemamaa 2014). Ethnography is described by Brewer (2000, p.7) as ‘the study of people in naturally occurring settings or “fields” by methods of data collection which capture their social meaning and ordinary activities, involving

the researcher participating directly in the setting.' O'Reilly (2012, p.28) defines it similarly but suggests it is useful to see ethnography as a practice that 'involves direct and sustained contact with human beings in the context of their daily lives, over a prolonged period of time.' Ethnographies use various methods, and they often result in rich and detailed accounts of the complexity of the world (ibid). Historically, ethnographic approaches have focused on the meaning and interpretation of cultures, social worlds, or social constructions, and so they are usually associated with interpretivism (Niemimaa 2014). Indeed, Campbell and Lassiter (2015, p.10) call ethnography a 'humanistic' inquiry that is usually focused on 'what it means to be human.' More recent theoretical shifts in light of the 'material turn' discussed earlier mean that ethnography has also become used for sociomaterial purposes, demonstrated by a number of such studies using this methodology (Bruni 2005; Sørensen 2009; Fenwick et al 2015; Ogden et al 2013; Pacini-Ketchabaw et al 2016). Ethnography can also be a useful approach for studying practices and 'for finding answers to open questions about the nature and formation of these practices' (Sørensen 2009, p.3).

Niemimaa (2014) suggested two important considerations in taking a sociomaterial ethnographic approach that I kept in mind: paying attention to both the social and material elements in the field and immersion into the setting to understand its material nature. I recognised I would become 'part of the constitutive parts of what [I] study' and should be sensitive to the changes I affected (Niemimaa 2014, p.7). To conduct this study, I sought out and prioritised finding a site I could spend significant time in, attempted to be sensitive to both material and social aspects of the activities I observed, and also recognised my own role in the practices I was observing and developing throughout the field work and analysis.

Other attributes of ethnography also shaped my study. Ethnography's focus on the detail of everyday interactions is useful in understanding sociomaterial dynamics and re-examining pre-conceived categories in its fine-grained consideration of the worlds under study (Nimmo 2011). Attending to such detailed observation of the sociomaterial world is not easy, though, as Latour (2004, p.65) suggests: 'To

describe, to be attentive to the concrete states of affairs, to find the uniquely adequate account of a given situation ... is incredibly demanding' (ibid, p.67).

While ethnography is commonly used to study education and learning, it is not used as often to study health, physicality, or disease. Social science has accounts of what it is like to live with illness or other bodily conditions. But in her own study of atherosclerosis, Mol (2002) points out that there are few ethnographic accounts of the actual conditions of the body. Though autism is different from atherosclerosis and not considered in this study to be a 'disease,' it is an embodied condition. This ethnographic approach to autism did not examine the experience of being autistic, nor did it consider autism to be a disorder. Instead, I focused on the everyday experiences that I could observe (albeit, with its own limitations): the practices that enacted autism and the potentially different autisms that emerged in relation with a natural environment.

4.2.1 Ethnographies of autism

Taking an ethnographic approach has other functions in this study too, as it responds to a call for more empirical studies of the everyday, lived experiences of autistic people. Some social scientific ethnographic accounts of autism have been done over the past 20 years (see Solomon 2010 for a summary) but philosophers Bolte and Richman (2019, p. 3) suggest that discussions about autism have still 'too often been abstracted from real life.' These authors (ibid, p.403) go on to recognise that there are unique challenges about conducting ethnographies involving autistic people, suggesting that ethnographers may assume that people they observe 'at some basic psychological level, function just like anybody else.' However, they critique this assumption, saying that,

We know today that assumption is only partly true. There may be genetic differences among populations that influence the working of the brain as well as cultural influences that in turn affect our neuropsychology. ... Autism, however introduces ... differences that go well beyond, or 'deeper' than, the

differences in language and meaning that ethnographers may expect to encounter.

Autistic writer Jim Sinclair (1993, p.2) further talks about how human relations often assume a shared system and understanding of signals and meanings, which may not be the case with autistic people. In an excerpt from a piece he wrote for parents of autistic children, he wrote that

You're going to have to give up your assumptions about shared meanings ... you're going to have to give up the certainty that comes of being on your own familiar territory, of knowing you're in charge, and let your child teach you a little of her language, guide you a little way into his world.

These writings resonate with previous discussions about differences between autistic and non-autistic people from Milton (2012) and Manning (in Evans, 2018). Rodogno et al (2016, p.403) suggest approaching an ethnographic study of autism with some 'epistemic humility,' in which an ethnographer recognises different ways of knowing and understanding the world. I recognised this challenge and limitations on my own ability to understand the young people's experience. Taking a sociomaterial ethnographic approach as I did in this study may have aided such an approach. My focus was not on the meaning or motivation behind human activity (or laced with assumptions that I understood the meaning behind the behaviour), but was instead attentive to the detailed observable interactions among the social and material aspects of the world.

4.2.2 Researching within an emergent ethnographic design

Few ethnographic studies start with rigidly fixed plans, as the situations encountered in ethnographies often require unique or practical responses that reinforce or change original intentions (Campbell and Lassiter 2015). Van Maanen (2011, p.2) states that 'accident and happenstance shapes fieldworkers' studies as much as planning and foresight.' This is especially the case in an ethnography with a relational ontology, that in principle would see the research as emerging through its

sociomaterial interactions and practices.⁴¹ Like many ethnographies, this one could be characterised by an ‘emergent design’ (Campbell and Lassiter 2015). I began the study with a broad aim and sensibility – to understand what happens when autistic young people are supported by schools to spend time in a natural environment through an examination of sociomaterial practices – but kept the set of possible methods and ways to pursue those aims more flexibly. I did not know what I would encounter in the field, how my relations with people and places would influence these encounters, or how these might re-shape the study and me as a researcher. I took direction from O’Reilly (2012, p.9, 30), who described ethnography as an ‘iterative-inductive’ process ‘that evolves in design as a study progresses’ and allows for ‘the practices of ethnography to unfold.’ She suggested that ethnographers must be aware and responsive to human changes and complexity, and, in my case, dimensions of materiality too. I found I needed to be responsive to dynamics in the settings such as changes in health and communication requirements of young people and in staff teams, seasonal patterns, and cancelled visits to the farm due to bad weather. To disregard or ignore these prompts and plough on with a preconceived plan would have disrespected the participants and potentially missed opportunities for collaboration and deeper understanding. I also aimed to work reciprocally, that is I wanted the study to also be useful for the participants and discussed how findings might be shared with them and the school during the study and upon its completion (Campbell and Lassiter 2015). To work towards this, I intended to be physically present in the study site over a sustained period of time, but also enter with a flexible set of possible methods and research directions.

4.3 Becoming a sociomaterial ethnographer

The ‘defining method’ of ethnography tends to be fieldwork where the researcher is present in the site (Van Maanen 2011, p.24). A willingness to engage with the complexity of everyday experiences is one of ethnography’s important contributions (Crang and Cook 2007). This can make the practice of ethnography itself complex

⁴¹ Taking an approach that completely aligned with these ideas was not possible in this study, given the requirements of a PhD programme where methodology and ethical considerations must be discussed and agreed well before field work commences.

and means that ethnographers need to both regularly account for their own subjective positioning in the field and also often negotiate power and knowledge relationships. Campbell and Lassiter (2015) argued that doing ethnography today is as reflective as it is active and requires ethnographers to remain cognizant of how their backgrounds and experiences shape and affect their studies.

Reflexivity is now considered to be an integral aspect to ethnography and refers to a researcher's self-awareness and analysis, as well as the process of scrutiny to examine how personal values and experience may affect interpretations of fieldwork experiences (Davis et al 2017). Reflexivity is particularly resonant in a sociomaterial approach, which assumes a researcher's role to be performative and productive (Lowstedt 2015). That is, the very doing of the study produces the study itself and the findings, and I am active in the unfolding of that process in my research. As a researcher, my own ideas and developing understandings were entangled with the sociomaterial relations I participated in and could not be paused (Ruck and Mannion 2019). Lichterman (2017, p.35) discusses 'positional reflexivity' where a researcher recognises how her own position and previous experience might influence a study. The pilot sessions in this research introduced me to some of these complex tensions, as I tried to familiarise and orient myself in a new setting and set of relationships while participating in them at the same time. This was challenging, for example, in knowing how to participate in existing classroom norms of managing student behaviour alongside my own existing sets of values, a situation described in more detail in Section 4.5.

I realised I could not ultimately be separated from the experience I am observing, not only because my participation changes what happens but also because I myself am affected and changed by the experience (Campbell and Lassiter 2015). Such tensions could not be known in advance – I had to be in the setting to acknowledge and respond to these. I aimed throughout the study to also build this reflexivity into research practices of conducting the study and writing this thesis, attempting to be clear and transparent in regular communications with different participants, as described throughout the rest of this chapter. I also included notations in field work

notes and discussed with my supervisors on how my own positionality and actions influenced the field work and my interpretations (Lickterman 2017). I also attempt to demonstrate some of this reflexivity in this thesis as I did in the study, so personal narrative is included in this thesis in an effort to put into the text some 'authority of the personal experience out of which ethnography is made' (Pratt 1986, p.33).

4.4 Setting up the study

In this section, I describe the field work sites, how I came to find and work in them, and the different research stages.

4.4.1 Situating the study

I originally arranged field work at two separate special schools – Ashdown School and Forest Valley School.⁴² Both schools initially agreed to participate in the research and were involved in the pilot phase. In addition to increasing the number of participants, working with two schools had a practical purpose, in that it mitigated the risk of focusing all research attention on one school. As it turned out, this pragmatism paid off. One of the sites, Forest Valley School, cancelled a number of early sessions before stopping their outdoor sessions entirely due to staffing issues unrelated to my research, thereby ending participation in the study.⁴³ Therefore, the focus of this thesis is on Ashdown School and the outdoor learning sessions there – weekly visits to a nearby farm where the post-16 class did work experience.

While most of the fieldwork sessions at Ashdown School involved a visit to the farm, I also participated in activities at sites beyond the farm. These included sessions in the classroom before and after the farm visits, on the bus or in a car on the way to the farm, and alternative trips to a garden centre, supermarket, and local community sites when the trips to the farm were cancelled. I came to participate in many of these other sessions because I would not know a farm session was cancelled until

⁴² School names are anonymised with pseudonyms.

⁴³ It is important to further clarify the role of Forest Valley School participation in the study and its representation in this thesis. This section includes information and discussion related to Forest Valley School as it was part of the initial phases of the study, but given the shorter length of involvement and inconsistency of field work at that school, the thesis' analysis and discussion in Chapters 5-9 is only from field work at Ashdown School.

arriving at the classroom. But, as it turned out, participating in these other activities was fortuitous and valuable. It was firstly important in maintaining continuity and developing the relationships with young people and with staff members. And the observations at these different sites also brought to life certain aspects of visits to the farm I may not otherwise have seen. By attending multiple sites, I noticed how practices and uses of objects were sustained or adapted at the farm and also recognised what was required to get there in the first place. Similarly, I noted vicarious experiences of the outdoors held at other sites (ie, indoor activities related to the outdoors or using produce brought from the farm) and these provided new insights on what happened at the farm. This approach helped me develop a better understanding of a phenomenon that does not exist in one place and may instead be better known by ‘following connections, associations or ... relationships’ (Pierides 2010, p.179).

4.4.2 Finding, approaching and selecting the schools

In seeking and finding participants for this study, I employed theoretical sampling, or seeking access to groups or people who show concern with or involvement in the research focus and who could also share their perspectives on the research problem (Crang and Cook 2007). Young people’s experiences in the natural environment can obviously happen far beyond school grounds, but I chose to focus on a school-based context for two main reasons. Firstly, public-facing discussions and policies that advocate ‘reconnecting’ children to nature often invoke learning, education, and schools as the proposed venues for this reconnection (DEFRA 2011).⁴⁴ This political push has manifested in projects like the aforementioned Natural Connections Development Project, Eco-Schools, and the Sustainable Schools Alliance.⁴⁵ Secondly, working with a school offered regularity and consistency with the same group of young people, something that may be rarer in informal contexts. Because it was school-focused, I recognise this study included mainly experiences that were more

⁴⁴ The reform relating to reconnecting children to nature set this target: removing barriers and increasing schools’ abilities to teach outdoors (DEFRA 2011).

⁴⁵ <http://www.eco-schools.org.uk/> and <http://sustainable-schools-alliance.org.uk/>

formally organised and curated by teachers and support staff and influenced by a range of factors (Dillon et al 2006).

The two initial schools were selected for three main reasons. Firstly, each worked with a group of students that fit the sampling criteria for participants (secondary school-age, autistic students, regular experiences in the natural environment). Secondly, they were geographically situated to make them reasonable to visit. Finally, both schools had demonstrated interest in outdoor learning prior to starting the research. One school was part of an initiative to develop outdoor learning, which was how I learned about their activities. I made contact with this school through a senior teacher who was in charge of the outdoor learning across the school's primary and secondary levels and was the main contact for the initiative. The other school emphasised outdoor learning throughout its curriculum, engaging students regularly in sessions in the natural environment, as showcased on their school website. My main contact at this school was a school manager who led on the school's outdoor learning and was someone I had met previously. Both schools were willing to participate and showed enthusiasm for my research focus. I also contacted two other schools who met the initial criteria but contacts there did not respond to my emails, so were not further pursued.

Once each school site showed initial interest, I worked with my initial contact to identify a class and teacher to work with. My aim was to work with secondary or further education levels, as I had more experience working with this cohort and there are often fewer reported outdoor learning opportunities or related research at this level of schooling (Nicol 2008; Dillon and Dickie 2012; Waite et al 2016). Both schools incorporated outdoor learning in various ways across their curricula and at different levels. Both also had post-16 classes that held regular and lengthy sessions in local but off-site outdoor spaces, and the teachers involved in these sessions were approached and interested in participating. The number of autistic young people in these classes was small (four at Ashdown School and one at Forest Valley School), but the school sessions happened regularly and were purposefully located in the outdoors. Therefore, the classes offered suitable opportunities to spend significant

time at regular intervals with these young people. To be specific, both signalled that they were willing for me to attend the outdoor sessions (lasting between 3-6 hours) on a weekly or bi-weekly basis across a school year.

The post-16 classes in both schools consisted of young people with a range of impairments. Some young people with autism diagnoses also had other impairments, and communication methods used in the classes varied. I was specifically observing the autistic young people in the classes, but these observations also often included other students and school staff. Further information about the two schools is shown in the table below – any identifying details have been changed or anonymised. Information about Forest Valley is included here as it was part of the pilot study and is implicated in the discussion about that stage.

	Ashdown School	Forest Valley School
Type of school	Special school – working with primary, secondary and post-16 levels	Special school – working with primary, secondary and post-16 levels
Outdoor natural environment	Small, rural farm enterprise – 45-minute drive from the school	Local resident’s large garden – 5-minute drive from the school
Purpose of visit to outdoor environment	Work experience on a local farm; aligned with ASDAN certification scheme	Outdoor learning activities, led by ‘outdoor learning’ teacher employed by school
Number of autistic participants	4 young people (3 male, 1 female)	1 young person (male)
Other participants	<i>Part of field work sessions and observations:</i> 4 other students; 4 school staff members; 4 temporary support	<i>Part of field work sessions and observations:</i> 4 other students; 1 lead teacher of outdoor

	assistants; 3 ABA tutors; farm manager	sessions; 4 school staff members
	<i>Teacher interview:</i> Main class teacher	

Table 1: Summary of field work sites

4.4.3 Data collection schedule and practices

The field work for this research took place between September 2015 – July 2016, spanning one academic year. This allowed me to spend significant time with the class, build relationships with participants, become familiar with routines and communication methods, and observe visits to the outdoor environment across different seasons. Such prolonged engagement allowed for depth of data collection and helped to strengthen the trustworthiness of the study’s findings (Hays and Singh 2012). My plan was to visit each school every other week, spending approximately 12-15 sessions in each school, though this did not happen at Forest Valley School due to the school stopping the outdoor education sessions early in the study. The classes both led outdoor sessions on the same weekday, so I planned to visit each school on alternative weeks. As it turned out, I spent significantly more time at Ashdown School once it was clear Forest Valley School would no longer be running outdoor sessions.

The research process unfolded in three phases that progressively informed each other. The table on the following page shows the overall timeline and phases of the research, as well as sessions attended. The phases are then described in more detail.

Activity	Timeframe (times are approximate)
<p><i>Field work – Phase 1</i></p> <p>Introduction to the study and confirmation of participation</p>	<p>June 2015</p> <ul style="list-style-type: none"> - 19 June – Ashdown School initial visit (1 hr) - 25 June – Forest Valley School initial visit (.5 hr)
<p><i>Field work – Phase 2</i></p> <p>Pilot study, including introductory visits to staff members in the schools and initial visits to each school site; analysis of the findings from the pilot study; and revision of research design</p>	<p>September – December 2015</p> <ul style="list-style-type: none"> - 15 Oct - Ashdown School – meet teacher and participants (1.5 hrs) - 11 Nov – Ashdown School and farm (6 hrs) - 18 Nov – Forest Valley School garden (4 hrs) - 25 Nov – Ashdown School (4 hrs) - 2 Dec – Forest Valley School garden (4 hrs) - 9 Dec – Ashdown School and farm (6 hrs)
<p><i>Field work – Phase 3</i></p> <p>Regular visits to school site and local farm. Conducted semi-structured interview with teacher</p>	<p>January 2016 – July 2016</p> <ul style="list-style-type: none"> - 27 Jan – Ashdown School and farm (5.5 hrs) - 3 Feb – Ashdown School (3.5 hrs) - 17 Feb – Ashdown School and craft centre (4.5 hrs) - 24 Feb – Forest Valley School garden (1 hr) - 2 March – Ashdown School and garden centre (6 hrs) - 24 March – Ashdown School and farm (6 hrs) - 13 Apr – Ashdown School and farm (5.5 hrs) - 27 Apr – Ashdown School and farm (6 hrs) - 3 May – Forest Valley School garden (.5 hr – cancelled session) - 11 May – Ashdown School and supermarket (4 hrs) - 19 May – Ashdown School and adult day care centre (5 hrs) - 25 May - Ashdown School and farm (6 hrs) - 15 June – Ashdown School and farm (5.5 hrs) - 22 June – Ashdown School and farm (6 hrs) - 6 July – Ashdown School and farm (6 hrs) - 8 July – Ashdown School celebration (1.5 hrs) - 13 July – Ashdown School and city farm (4.5 hrs)

Table 2: Summary of field work stages and activity

Phase 1: Introduction and confirmation of participation

The first phase of the study introduced the research and proposed participation to school staff and young people. Once my initial contact handed communication over to teachers who they thought would be most receptive and suitable for my study, I met and discussed the study's aims and proposed design with the teachers. The teachers in each site welcomed my involvement early on, and initial discussions demonstrated their commitment and enthusiasm for learning outside the classroom. Such interest was valuable, as it was also important to me that the research was not just a one-way activity and that it had the potential to be useful for participants too. I agreed with Lassiter (2005), who suggested that ethnography is at its heart collaborative as it is done by engaging others in their day-to-day lives.⁴⁶

Once I had agreement from the main teachers, I wrote and shared a one-page overview of the study to other staff who worked in the classes involved and discussed it with them upon meeting (See Appendix A). I did this in recognition that some staff members may have felt pressure to participate in the research (given that the main teacher or deputy head had agreed), and I wanted to ensure they also understood the aim and practical implications of the study and consented to participate. I did not receive any concerns or questions from the staff following distribution of this information, though it was subsequently discussed more informally during the field work visits.

Phase 2: Pilot study

During the three-month pilot study, I aimed to introduce the study to participants, begin to understand young people's communication requirements, and reflect on methods used and my role in the study. During this phase, I attended six sessions at the schools (four at Ashdown School and two at Forest Valley School). Four of these

⁴⁶ While I would have liked this study to be more collaborative throughout, with more decision-making shared with participants, I found this difficult to achieve in the timescales of a PhD programme where the methodology needs to be planned and agreed at institutional levels before participants are contacted or field work begins.

sessions were in the outdoor environments and two took place in the Ashdown School classroom, one when I introduced myself to students and another when there were not sufficient staff members available to go to the farm so the group stayed in. In these early sessions, I tried out field work methods and ways of recording observations, as explained in Section 4.4.4. At the end of this stage, I made adjustments to the research design, as briefly described next.

The pilot study provided an opportunity to try out a sociomaterial sensibility to ethnography, which was a new research approach for me. I intentionally focused on observing the different material aspects of the encounters, such as tools, smells, technology, food, and behaviour reward charts. Paying specific attention to both the humans and material elements in the observed activities was challenging but enabled me to focus on the doing of everyday activities instead of a human-centred focus on individuals or trying to explain their motivations. I came to recognise the value of this approach, as I noted that some of the autistic young people paid attention to and connected with material objects more than they did with other people. Such interactions with the world could be captured through an observation that foregrounded material things and considered them as more than passive objects.

However, the pilot study also prompted me to slightly shift my approach to observation. In these early sessions, I tried out an ANT approach known as ‘tracing,’ or following different ‘actors’ as they interacted with networks of human and non-human actors. I aimed to ‘trace’ the activity of autistic students, which seemed a logical and relatively straightforward starting focal point of the study, recording their connections with other people or the material world, like tools, objects, or the weather (Roth 1996). To ‘trace’ the students, I spent time near or with them, recording where and when the student connected with other people (including myself) and/or material objects. This approach helped me to consciously take note of the materiality that young people interacted with but was also practically challenging. At times the access to young people’s movements and interactions was limited or affected by other factors, and the open space of the farm meant that

'tracing' one person meant I might miss other valuable observations of other people. Furthermore, it also ran the risk of singling out these young people as discrete entities, as 'objects' of study (Ingold 2011).

What became more evident during the pilot phase was the importance of practices as a way of understanding what happened in these settings. As discussed at length in Chapter 3, paying attention to practices rather than individuals or their behaviour avoids the risk of objectifying and essentialising autism within an individual, and the pilot phase therefore shaped this study's use of practices as a valuable analytical framework. Such a move has also more recently been shown in Hultin's (2019, p.98) longitudinal case study of the Swedish Migration Board, where she shifted her observations 'from the sayings, doings and interactions of primarily human actors, to how the temporal flow of practice enacted conditions of possibility to speak, act, and interact in certain ways.'

In this shift to focusing on practices, I also became more alert to the temporal qualities of practices and the regular ordering of some into routines. In the different outdoor environments, certain practices happened each week and in the same order. For example, at Ashdown School, the class began the day with a welcome circle, then travelled to the farm, stopped for a snack, arrived at the farm, walked around a field, ate lunch, worked at the farm, returned to school, and ended the day with a closing circle. Such routines are common in educational settings and may be even more so in schools like Ashdown School, given suggestions in the literature about the importance of routines in relation to autism (Batten 2005). Given this, I became interested in how observed practices formed 'routines,' which I understood as regular sets of practices in temporal patterns or 'temporal regularity' (Gaskin et al 2014, p.852). This attention to routines was not considered at the start of this study but emerged through these early observations in interaction with my ongoing reading of relevant literature. Therefore, this study shifted through the pilot study in its focus on practices as a framing for observation and analysis and in its recognition of the importance of routine. The shifts described above demonstrate the importance of flexibility in the field and the 'iterative-inductive' ways of ethnography

(O'Reilly 2012), which I came to appreciate in the pilot study. Having a broad aim and sensibility but also flexibility in responding to the specific settings was valuable, for example, when outdoor sessions were cancelled with short notice.

Phase 3: Field work sessions

This phase of the research followed on from the pilot sessions (see list of sessions in Table 2 above). While most field work sessions involved visits to the outdoor natural environment, others did not due to poor weather, inadequate staffing, or other schedule changes. Though I did not anticipate the field work would take me to places like the supermarket or garden centre, going along to these places with the class helped me understand visits to the farm differently by showing me, for example, how encounters with plants or practices like eating lunch at the farm were similar to or different from others. I also was invited to other events that the class took part in, such as their end-of-year celebration. Before describing the methods I used across these field work sessions, I spend the next section discussing how I planned and responded to ethics in the study.

4.5 Considering and responding to ethics in this research

Ethics are central to any research study, though there are various ways to approach and consider ethics in research (Alderson 2014). Like most social science research, this study began with a procedural approach and a written ethics plan approved by the university ethics committee, drawing on guidance from the university and wider research protocols and relevant legislation. In line with BERA guidelines (2011, p.5), the presiding ethical approach to this study rested on an 'ethic of respect' for persons involved. But ethical guidelines do not provide straightforward and simple ways through research, as ethical principles can conflict and many judgments need to be taken in response to unexpected situations (Hammersley and Traianou 2012). These emerging ethical decisions have been called 'situational ethics' or 'ethics in practice' (Heath et al 2009; Guillemin and Gillam 2004). I responded to these situated issues with a consideration of ethics that aligned with this study's framing – that is, I saw them as emergent and relational. More to the point, my ethical practice

attempted to consider the context of situations and both the social and material elements involved in it (Whatmore 1997). For example, gaining consent was not just a cognitive process and a rational decision of an autonomous individual, but was interwoven with other social and material aspects of certain situations in certain moments. I attempted to attend to arising ethical issues with a recognition that ethical practice is enacted in the development of respectful relations that consider and 'secure the well-being' of others (Whatmore 1997). As ethical decisions arose, I reflected on them through consultation with peers, supervisors, and by reading experiences of scholars in the field, including Alderson and Morrow (2004), Rodgers (1999), Loyd (2012), and Nind (2008). The rest of this section describes the considerations and structures I initially put in place and subsequent responses to specific emerging issues during the study.

4.5.1 Doing research about disability

Research is political. The way it is proposed and carried out displays assumptions about how we know things and whose knowledge is valuable. It also has political consequences that we, as researchers, should take responsibility for (Cragg and Cook 2007; Hammersley and Atkinson 1995). This resonates in my study, given its focus on disability. Some disability researchers have been critical of studies by people in privileged positions who research others not in those positions (Cragg and Cook 2007; Oliver 1992). While this research does not aim to investigate discrimination that disabled people encounter, I recognise that autistic people routinely face inequality and stigma and some have been involved in unethical research in the past (Silberman 2015). In doing this study, I have also become more aware of the paucity of future possible opportunities that exist for many autistic young people. Barnes (1996) suggests that those who research disability cannot be 'value-free' or independent from the political nature and oppression that those with impairments face. In this vein, I did not just set out to do a rigorous academic study but also hoped to contribute to wider discussions of what it means to be autistic in today's world and different ways that autism might be studied and conceptualised. In the

process, I also challenged and confronted my own assumptions about young people and autism.

Additionally, while an observer's interpretation of what is seen is imperfect, it may be particularly complex in this study. Emerson et al (2011) suggest that ethnographers often attempt to look for meanings embedded in everyday interactions, but this may be more challenging in a study of autistic young people who express themselves in diverse ways that are unfamiliar and unknown to me. Additionally, I consider myself to be non-disabled and recognised this as problematic in how much I could understand or 'know' about the experience of disability I was observing. Lichterman's (2017, p. 35) concept of 'interpretive reflexivity' is useful here, in considering how I 'figured out' or understood other people's activities or meanings from field work without misrepresenting them. Here again sociomateriality proved useful in emphasising descriptions of *what happens* rather than *interpreting the meaning or intention* behind this action, which allowed me to focus on the practices that were done rather than interpretations of understanding or emotion. I was not attempting to understand the young people's experience so much as what they *did in practice*. Furthermore, I tried to practise a reflexive ethnographic approach by checking my understanding with participants when possible and writing out my own actions and reflections in field notes and my research diary.

4.5.2 Research with young people

There are also ethical considerations in this study relating to research practices involving young people. Trying to understand the day-to-day experiences of children or young people through lengthy ethnographic study is different than researching adults. For example, adult researchers cannot be a 'native insider' to a young person's world. Christensen (2004, p.174) describes how researchers might approach this role: 'Adults doing childhood research should present and perform themselves as an unusual type of adult, one who is seriously interested in understanding how the social world looks from children's perspective but without

making a dubious attempt to be a child.’ I describe how I tried to assume a similar position in my research in the following sections.

Another issue to consider when doing research with children or young people is around issues of power and authority. There have recently been calls for more opportunities for children and young people to participate and have a ‘voice’ in decisions about their lives and associated research (Alderson 2014; Alderson and Morrow 2011). Whether children should be seen to be ‘vulnerable’ and needing protection or as ‘fellow human beings’ first in research are arguments resonant of the discussion in Chapter 2 (Christensen 2004). I recognised that positions I held as adult in a school setting and also as a university researcher meant that I would likely be seen with authority by young people. This can be particularly complex when working with disabled children or young people (Davis et al 2000). I also recognised that power dynamics are not necessarily specific to individuals but ‘embedded in “the doing”’ of research (Christensen 2004, p.167) and that my actions and own practices could shape these relationships. I discuss this in detail in the following sections related to communication with young autistic people, informed consent, my role as researcher, safety in the field, and anonymity.

4.5.3 Communicating with young autistic people

Many autistic people use different methods of communication and some do not use spoken language (Loyd 2012; Fombonne 1999). But all do communicate in different ways (O’Neill 1998), and I recognised my responsibility to pursue an understanding of these ways with the young participants in this study as best I could. It can be difficult to involve people with different communication methods in research, but Iacono and Murray (2003) suggest a balance needs to be struck between managing safety of vulnerable people and ensuring they are involved in quality research. It can also be ‘unethical to exclude [these] people ... from studies that could provide insight into their experiences’ (Tuffrey-Wijne et al. 2008, p.188). Nind (2008, p.4) offered a useful perspective that I used to frame my initial approach to working with the young people, when she stated that developing reliable communication is ‘as much as a product of the interactions’ between researchers and participants as it is ‘of any

inherent impairment.’ I therefore carefully considered the context of the encounters with young people and adjusted these as necessary to further my understanding of communication methods, an approach that also resonated with the wider framing of the study.

From the start of the study, I prioritised building an understanding of young people’s communication requirements and preferences. I recognised various forms of communication, including verbal, gesture, behaviour and other body movements (including eye contact) to have purpose and intent (Sterponi et al 2015), so I initially stayed open and attentive to different possible ways of communication. My strategies here included spending time observing and interacting with young people, reading their ‘pen profiles,’ consulting with staff, and learning different communication methods as required. For instance, one of the staff members copied a handbook (See Image 1 below) and spent time teaching me the most frequently used Makaton symbols in the classroom, which I was able to subsequently use with some young people.

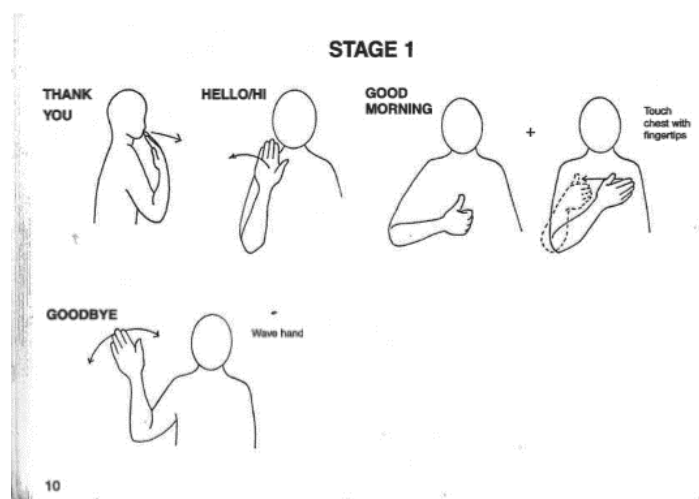


Image 1: Page from Makaton handbook given to me by a teaching assistant

I found the most important factor in this process to be spending significant time with young people over an extended period. Morris (1998) suggested that for some young people who do not use verbal communication, ‘being with them’ is the most appropriate way to involve them. I also worked with others who knew the young people, including teachers, staff and other students to check that the methods I used were accessible. However, while staff members often provided valuable insight, I

also realised that the validity of the information should not be assumed as it may also be tuned to reflect well on the adults or school or represent one particular view (Rodgers 1999). Davis et al (2000) also point out that while working with others to develop methods of communication with participants, ethnographers need to retain the idea that any person is a competent social actor who can decide how and whom to communicate with. So, while checking my understanding with different adults, I paid most attention to observing young people's own communication methods, recording their actions and behaviour as well as my interpretation, so that my comprehension and communication were as effective as possible.

4.5.4 Considering and pursuing informed consent

Gaining the informed consent of participants is an essential aspect and a legal requirement of any research done with people, but it is far from a simple, straightforward affair. A number of factors influence consent decisions for young people's participation in research more generally, including their right to participate, parental responsibility, benefits of involvement, capacity to choose, and potential for harm (Alderson and Morrow 2011; Cameron and Murphy 2007; Morrow and Richards 1996). I recognised the complex, often contested nature of consent and carefully planned my approach in this study. When considering the age of consent for children or young people to participate in research, there is 'no simple answer ... much depends on each researcher's view of children's competence, along with each child's own experience and confidence, the type of research and the skill with which researchers talk with children' (Alderson 2014, p.96). There are also varying perspectives on when researchers should seek consent of those with parental responsibility, but this issue also remains unresolved.⁴⁷

⁴⁷Alderson noted in 2014 that there was no law on children's consent to research and suggested researchers might request the consent of parents or carers for any participants under 16 or 18 when possible. Consent regulations that came into effect with GDPR regulations in 2018 state that children or young people over the age of 13 can consent – though how this plays out in practice and what happens as a result of Brexit is yet to be worked out.

These considerations become further complicated when working with disabled participants, particularly in relation to an individual's capacity to give consent.⁴⁸ Notions around capacity to consent were codified in law with the Mental Capacity Act (for England and Wales) in 2005, which states that any research participant over the age of 16 should be assumed to have capacity to consent and should be able to consent for themselves. While this might mean that by law parental consent is no longer necessary at this age, as discussed above there may be other reasons for obtaining this consent through agreements with partnering institutions. I considered these frameworks in my approach to consent, by firstly assuming that young people had capacity to consent. I prioritised getting their own consent to participate, and I also sought consent from parents as I thought it was important to inform families about the study and in line with institutional preferences (and I was also initially interested in engaging with families through this research, an avenue that unfortunately did not happen due to lack of responses). Therefore, this two-pronged approach was agreed with school contacts and supervisors and formally approved by the university ethics committee (See Appendices C-F for consent materials and ethics approval from the University).

When considering the practicalities of obtaining consent, there is a small amount of scholarship examining how to do this with autistic young people (Loyd 2012) and more has been written about seeking consent from children and young people and from disabled people (Cameron and Murphy 2007; Preece and Jordan 2010; Nind 2008). Drawing on this literature, my own experience, teaching staff at the site, and discussions with peers, I used the following strategies to seek consent with young people: *developing relationships; using accessible and varied communication methods; providing 'rolling' and regular opportunities for consent; and recognising different ways to consent to participate or not*. These are each briefly described below.

Developing relationships – I recognised that it would not be suitable to ask for one-off, overarching consent when I first met young people. Rather, I prioritised building relationships over time to establish rapport and familiarity with what I was doing (Loyd 2012). As Nind (2008, p.6) notes, ‘A primary feature of ethics protocols in qualitative research is the quality of the relationship between researcher and participants.’ Christensen (2004, p.169) describes how she engaged with children and young people in her research, letting ‘the possibility of participation flow from’ working alongside them. Brooks and Davies (2008, p.130) concur, stating that informing participants should go beyond use of video or simplified text but also allow for understanding through ‘the doing’ of the research. So, after briefly introducing the research in the first session, I spent subsequent sessions accompanying young people and the class and also allowing them to make contact if they chose to. Such an approach also provided time for young people to think about and understand consent over a longer period and get to know me before agreeing to be involved at different stages (Cameron and Murphy 2006). My active participation in the farm visits showed my interest in their experience and demonstrated what I was doing by actually doing it in context instead of relying solely on verbal explanation or pictorial representation.

Using and responding to varied forms of communication – Providing information in accessible ways is essential to the process of gaining consent, so I attempted to provide multiple and varied opportunities for participants to learn what I was doing and agree to take part. I also consulted with school staff about how best to do this.⁴⁹ I developed communication methods with young people as described above, and also used Makaton, PECS symbols, and visual and pictorial representation of the study to seek consent around me observing and writing about what I had seen as well as taking or using photos (See Appendix E) (Loyd 2012). I also recognised school

⁴⁹ For example, in my first one-on-one meeting with the main class teacher, Amanda, I explained I hoped to get consent from the young people, to which she replied that wouldn’t work and would only be ‘tokenistic.’ After further conversation, I realised she thought I would simply be asking young people to read and sign a form, which she knew would not be meaningful or even possible for some. From this, I understood that the process of consent also required me to explain to school staff my strategy went beyond a single point of agreement or signing of a piece of paper, and that I aimed to learn about the different communication requirements as part of the consent process.

staff knew young people well and could support me in understanding their communication methods (Walmsley 2004), though endeavoured not to prioritise this 'proxy consent' over young people's own responses (Nind 2008).

Providing regular opportunities for consent – The consent process was ongoing, with various opportunities for participants to watch and understand what I was doing (Walmsley and Johnson 2003). I provided information in chunks rather than a single stream, repeated explanations over time, and sometimes used visual images (Wong et al 2015; Harris 2003). For example, the first time I met young people, I briefly introduced myself and the research to the whole class, explaining in simple language the aims of the study and their rights as participants to choose not to take part or to withdraw. I explained that I'd like to write about what I saw and that I'd ask them regularly if it was ok if I watched or took notes. I provided more specific information about the study and what would happen with what I did, as well as individual opportunities to consent (for example, allowing me to observe or to work alongside them or to take photos) throughout the field work, so that consent decisions were contextualised and ongoing (Rodgers 1999; Loyd 2012).

Accepting different ways of choosing to participate -- I also recognised that young people might choose to opt in or out of the study in different ways. Over time I learned that indicators of consent differed among the young people, from verbal responses to finger pointing to nodding to remaining nearby, assenting actions that I involved support staff to confirm. There were times students would walk away from me, turn away, or stop responding, and in these instances, I did not pursue further interaction. Skanfors (2009) suggests researchers should have an 'ethical radar' with which they attend to these forms of non-verbal dissent – 'showing no' – and recognise when participants may express hesitation or resistance to taking part. Attending to these more subtle forms of consent was important, albeit challenging, throughout this study.

In addition to seeking young people's consent, I also sought and obtained signed consent from teachers and tutors involved in the research. While the considerations

for this were not as complex as those for young participants, it was also not entirely straightforward. Though some teachers and tutors were consistent members of the classroom, others were bank or temporary staff, meaning that I needed to approach different people at different times to explain what I was doing and get consent from them to observe and record what they were doing. I made it clear to participants that they could opt out of participating without explanation, and I would not record any observations or take photos with them. This is not foolproof though as even if a participant elected not to participate, I would still be observing the group as a whole and cannot 'unsee' what I have seen. Fortunately, all adults involved consented to participate. Like my work with the young people, I also regularly 'checked in' with adult participants that it was ok for me to record events, take photos and address any questions or concerns they had about what I was doing and why I was doing it.

While this section has shown the complexity of seeking consent and how I attempted to do that, it was rarely a straightforward process. In Appendix G, I also illustrate one particular ethical dilemma I encountered in which tensions between different forms of consent for these young people is shown in the absence of a signed consent form. This example shows the complex and often unsure path of maintaining 'good' ethics in this type of qualitative research. As Alderson (2014, p.90) states, 'Sometimes there are no clearly agreed solutions. Ethical research involves the process of researchers pondering moral questions, sometimes with colleagues, participants or advisers, recognising disagreement and uncertainty, searching for the best way forward or at times the least harmful way, and working out how to prevent or reduce harms and to promote hoped-for benefits.' Furthermore, this scenario in Appendix G highlighted the complexity of sociomaterial interactions in the enactment of autism. The importance and absence of one piece of paper disrupted previous agreement on issues of consent, capacity and, for a time, confidence in my own practice.

4.5.5 Safety and well-being

Some experiences in field work sessions were considered to be risky, which raised the question of how I should handle potentially harmful working practices. From the

start, there were some clear guidelines about my role in the classroom, in relation to safety and safeguarding; I was not to be alone with a young person or given primary responsibility for their welfare. However, these guidelines sometimes blurred or did not preclude other risky situations. In one site, for example, a young person became increasingly violent and was known to hit or pull the hair of staff members (I was warned to keep my distance). In another, I was paired with a young person to assist him to use a large saw to cut branches for a woodworking project, a somewhat nerve-wracking task. After discussions with my supervisors, we agreed I needed to clarify my role with staff at each site and make certain they agreed responsibility for the overall safety of students during activities and to sign an agreement to this effect (see Appendix B). I am not sure if this document changed much in the way of planning or structuring activities, but it opened up conversations about risk and my own role in these practices.

4.5.6 Anonymity

Anonymity can be a particular challenge in deep qualitative research such as this (Bickford 2013). As I worked with a small number of participants in two special schools, it was not possible to guarantee anonymity and confidentiality to audiences within or familiar with the school community. However, to ensure anonymity for wider audiences, I have changed the names and used pseudonyms for the schools and all participants and provided very few identifying details for each young person or staff member, in an effort to ensure they cannot be identified by the general reader. I discussed the limits of anonymity and confidentiality with participants and explained that all information would be used only for the purposes of this research and would be kept securely.

4.6 Data collection methods

In this study, I primarily used observation as my main method but also included semi-structured interviews and documentary analysis. A description of these methods, my rationale for using them, and how I did them now follows:

4.6.1 Participant observation – observant participation

In line with an ethnographic approach, my primary method of generating data in this study was to spend time in the field observing participants in their everyday contexts (Hammersley and Atkinson 2007). The primary method I used to gather data was observation, which can provide insight into the ordinary day-to-day sociomaterial practices within the classroom and outdoor activities (Soderstrom 2014). For this research, observation not only provided the bulk of the data but was also an orientation to the environment that helped determine what other methods might be useful, in particular what interviews or documentary analysis might be valuable.

This method is often called ‘participant observation,’ to note the more participatory, active role an ethnographer might take in the field. However, Campbell and Lassiter 2015, p.64) argue that a more appropriate term would be ‘observant participation,’ to recognise that fieldwork is more than ‘just watching and recording sights, sounds, tastes and feelings as they occur’ but instead also ‘demands that we open ourselves to the process of observing experience itself, reflecting on that observed experience in the moment and seeking out dialogue with others as this reflexive practice unfolds.’ Recognising this distinction was useful in my study, as it helped me acknowledge how my own experience and presence shaped the activities and practices at the farm, as well as my interpretation of what happened there.

In order to be in the schools, I got a background check as a ‘volunteer,’ and my role often aligned with what a volunteer might do – supporting young people in transit, with farm tasks, handing out food, singing with the group, and socialising. Yet I was an unusual participant in these school environments, an adult who was present in the sessions, helping out and joining in, but neither actually a member of staff nor technically a volunteer. In early discussions, I explained to the school staff that I wanted to participate alongside the group, rather than sit in a corner and take notes, which might have been their expectation of what ‘observation’ is. In the beginning, my presence at times felt awkward and I perhaps made some uncomfortable with

my presence. Gradually, I could sense people became more used to my presence and other staff members included me in activities and conversation more easily, at times asking me to 'pitch in.' By the end of the year, I had developed relationships with many staff members and students and I felt welcomed, being invited to other outings and end-of-year class celebrations. Such involvement was also performative, but a sociomaterial ethnographic perspective is built on this premise – that by doing this study, I was imbricated in its doing and I was not separate from that which I was 'observing.' The responses, statements, or behaviour I observed were influenced by my presence. As a result, I included my own experience and activity within the field work notes and in the vignettes and analysis in this thesis.

In terms of my own role and activity in the field work visits, I participated alongside the class members in their routines at the farm. I have had an allotment for 10 years, so have some amateur knowledge about growing vegetables and working in the outdoors. I found that this everyday knowledge about a natural cultivated environment influenced my interactions with people and the place were in. At the farm, I offered tools to young people to use, demonstrated how they worked, pointed out and named plants, suggested things to smell or touch, and worked silently alongside them. In the absence of knowing much about the young people and in the spirit of my study's focus on sociomaterial practices, I often found it valuable and often easier to interact with them via the shared activity and things around us.

However, my participation in the class activities also required some intentional distance. I needed to consider, for example, how to respond to certain classroom practices, such as those related to rules or behavioural expectations that might conflict with my own beliefs or interrupted possible connections with the young participants. For example, at Ashdown School some students worked with ABA (Applied Behavioural Analysis) tutors, had target behaviours, and staff often intervened to stop or reward certain behaviour. These interventions were not always sustained by all staff members and were also at times uncomfortable to me. The

tension in this situation was that I did not want to be seen by young participants as authoritative or a teacher, but I also needed to develop relationships with the school staff and maintain my presence in the classroom, partly by adhering to classroom practices. Christensen (2004, p.174) provided useful guidance from her own research with children, in which she 'refused to adopt traditional adult roles in the institutional settings such as setting the rules of a game, telling children off [or] solving conflicts among the children ... Through this the researcher emerges first and foremost as a social person and secondly as a professional with a distinctive and genuine purpose.'

I attempted to take a similar approach. As I was not a teacher or tutor, I did not engage in ABA- or school-based behaviour management. This approach generally worked on a day-to-day basis but was also tested when certain expectations of young people subsequently created an expectation from me, or when I was supporting a young person in a more direct capacity. Therefore, I sometimes had to navigate conflicting roles – protecting the research focus and aims; maintaining relationships in the site; shaping my role and relationship with young people; and responding to my own values and experience. Regular reflection with school staff helped clarify my role, and I most often aligned myself with maintaining research aims and my personal values, intervening in students' activities if I thought it was potentially harmful to themselves or others (e.g., throwing stones, leaving the group). However, the places I identified risk or harm are also interesting to note and became part of my reflexive observations and are discussed later in this thesis.

Deciding what to observe

I approached observation with two main strategies. Firstly, as ethnographic studies often do, I began by 'casting a wide net' and writing broadly about what I saw in the initial sessions (Emerson et al 2011). This enabled me to record the breadth of my early impressions that I might lose sensitivity to as I become more familiar with the setting and practices. Secondly, as discussed above, I used my sociomaterial framing of the study and research questions to identify ways to focus my observations,

attempting to document the everyday encounters of humans and other things in a natural environment.

When using observation as a method, a researcher inevitably identifies and selects what to observe. In this study, my focus was on sociomaterial practices observed in autistic young people's encounters in and around a farm. It was not possible to observe all relevant interactions or activities related to this aim, nor were all events necessarily relevant to my main focus. Kontopodis and Perret-Clermont (2015, p.8) suggest paying attention to 'critical incidents' relevant to the study focus. To gauge what constituted a notable incident to observe and record, I broadly used the following criteria to guide my field work observations: 1) sociomaterial practices⁵⁰ directly involving autistic students, individually or as part of a group and 2) sociomaterial practices related to autism or autistic students. These criteria were clearly still broad, were affected by practicality (i.e., the ability to only be in one place at one time), and were also taken as flexible guides rather than constraints, as I realised other observations not specifically related to autism might also become valuable.

The practices I observed varied widely and often within a short space of time. Sometimes a practice involving social and material elements lasted for some time (like eating lunch in a polytunnel) but others dissipated quickly (for example, intervening in a behaviour), and I considered these everyday, fleeting encounters and practices to also be important even when they did not appear significant (Fenwick and Landri 2012). In field work sessions, I attempted to spread my time and presence evenly across different activities with the four young people, though the multi-sited, open nature of the farm made this challenging. However, I was often able to record and identify multiple students' interactions with each other or as part of the same group.

⁵⁰ A reminder that 'practices' were understood to be the regular 'doings' I observed that were made up of configurations and connections between different sociomaterial elements.

A sensible question for a study like this is how much to observe in order to gain a sufficient understanding of the phenomenon in question. Mol (2002) suggests that the number of relevant practices or events in a study are not infinite but that there are practical limitations for researchers that mean not all practices could be observed. Barry (2013, p.418) posits that ethnographic accounts that draw on sociomaterial approaches can include very detailed fragments of life that will 'never likely to add up to a complete picture but will nonetheless reveal something that was perhaps unexpected or unanticipated.' In this study, I recognised that my observations of practices enacting autism were not comprehensive across a young person's day and much would go unrecorded. Additionally, there were also challenges in how to identify 'autism,' which was not always part of open discussions and was but only one aspect of these young people's lives.⁵¹ Decisions about what to focus on or where to draw boundaries of observation were also adjusted while in the field. Sørensen (2009, p.11) described how she made decisions about the research focus that 'arose out of the field itself,' a reflection that resonated for me in this study. When I started the research, for example, I did not know that the pedagogical approaches of ABA would be so prominent in the observed practices, but this soon became evident and I adjusted my attention to these different pedagogical practices and what they enacted.

In the doing of the study, I recognised that I often looked for or prioritised human action over material interaction. Hultman and Taguchi (2010, p.525) shared a similar experience when they described how they found it difficult to analyse photographic data containing humans in a way that didn't centre the human: 'Although our aim was to specifically look for the force of the material environment, our gazes were nevertheless persistently drawn to the individual child in each photograph.' Their

⁵¹ It is worth noting that I began field work knowing that there were four young people with autism and having some information about their communication requirements, but I did not have further access to sensitive personal information about young people or about details of other co-occurring diagnoses. There were inevitable questions raised by this complexity about where 'autism' could be identified or how it was implicated in certain practices that were also shaped by these multiple other factors. However, having a limited amount of information as a starting point was also intentional and valuable, as it meant that I had an opportunity to look more openly and broadly to observe practices that happened, rather than looking for characteristics I had read about, expected to find, or was measuring against.

centring of the human related to seeing themselves and their own 'human-ness' in that child. This was also my experience, that through the observation and also in the writing of the thesis, I found myself trying to connect to people, interactions, and practices by recognising myself in them or following visual behaviour or verbal conversation. However, I also soon recognised that prioritising verbal communication could side-line many interactions involving these autistic young people. Paying attention to the role of the material in the world – things like headphones, the weather, and dirt, for example – actually helped shift this attention from a focus on visual and verbal information (MacLure et al 2010). As will be examined further in later chapters, the students often initiated contact and interaction with material objects like soft toys, feathers, food, and crumpled up paper in ways they rarely did with their peers or adults in the setting. Therefore, using a sociomaterial perspective enabled richer descriptions of complex interactions and material things.

Recording observations

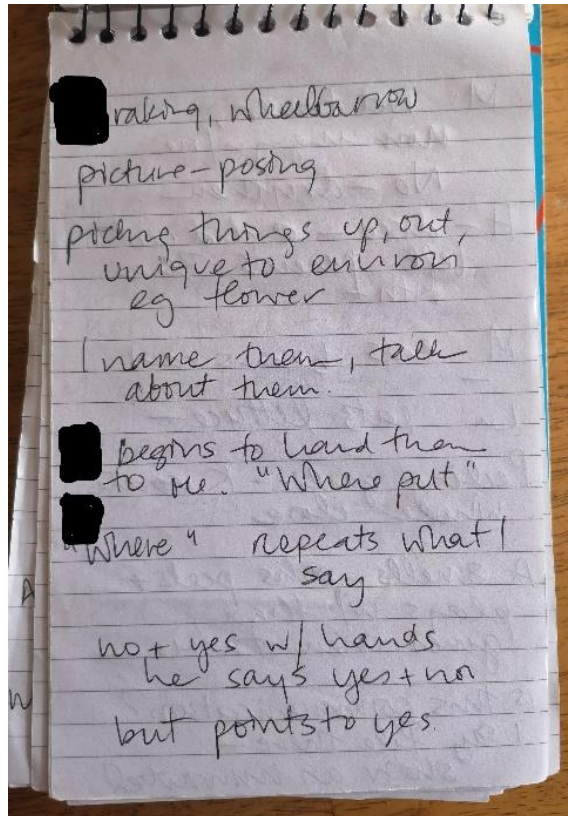
To record the field work observations, I mostly wrote notes by hand in notebooks but also used photography and voice recordings. To create written records, I jotted notes at regular intervals during field work sessions to retain a good level of detail about the interactions, an approach discussed in Emerson et al (2011). I intentionally noted the tangible and sensory details from the setting as well as dialogue and behaviour of individuals (including myself) to create descriptive field notes attendant to both social and material elements. I also took photos of the farm and activities to help remind me of the weather and practices I observed. There were however occasions when taking photos was not appropriate or where young people chose not to be photographed, so I did not rely on photographic evidence as much as notetaking. I also made voice recordings when possible when I left the field work sessions to record additional detail and my own experience of the session.

Writing notes during sessions was often complicated. Jotting notes on site was important to me in order to record observations while they were fresh in my mind

and while I was physically located in the setting, as some sessions were lengthy and I would have lost a level of detail if I did not record at regular intervals. However, I also felt it was important to be transparent and to take notes in visible ways. For one, regular notetaking during the session demonstrated that my role was different than that of teacher, support worker, or volunteer, and this activity was also useful in showing young people and staff *how* I was doing the research. However, I also recognised that this separate positioning of myself as active observer could affect relationships in the field in other ways and needed to be done sensitively and thoughtfully. I sometimes experienced this when I was asked about my note-taking. At times it opened up interesting conversations, but in other instances I sensed it made people feel uncomfortable. I therefore chose to record notes at intervals rather than carrying around my notebook wherever I went, and I recorded notes in more unobtrusive (but still visible) ways. Furthermore, I attempted to be sensitive to what was happening, stopping if situations became distressing or demonstrated vulnerability. I would often ask if it was ok to record sensitive information and omit certain things that were sensitive to young people's confidentiality or to staff members' professional position or when asked to do so. Other researchers have used videos to record the detail of sociomaterial practices (Roth 1996), but this was not feasible or appropriate given the outdoor environment and the active role I took in the experiences. In summary, I recognised that physically recording notes in the field work environment was a performative practice that affected what happened there, but it was also practically important to record the detailed events and productive in opening up conversations and visibly showing what my role involved.

The jottings and recordings from each session were turned into field notes that I wrote up as soon as possible after the observation (see Image 2 below). Each set of notes contained the location/s, names of participants, timings, and weather conditions if outside. The notes contained a narrative summary of what happened in chronological order; reflections and early comments on what I observed; and a summary of the field work session, with my own reflections. This reflective content included recordings of conversations with staff and also my own comments and emerging thoughts on what I had observed, which Emerson et al (2011, p.79) call 'in-

process analytic writing.' For example, this sometimes included notations on possible events or areas of interest relevant to the research aims and questions that I might examine further – a process discussed further in the Data Analysis Section 4.7 below.



When it is time to take the wheelbarrow to the compost pile, [redacted] grabs the handles and wheels it quickly to the gate. I run ahead to open the gate for him and he runs the end of the wheelbarrow into the gate, but we manoeuvre it through eventually. From the gate, we walk down a small path (~50 yards) between the polytunnel and a small gully that runs the length of the fence. On the way, he puts down the wheelbarrow several times to pick something off the ground. The things he picks up are unique to the environment, they stick out. A flower sticking out from the grass or a lone stick on the ground. I talk to him about what he is picking up. I talk about and name the flower and the stick. The first few times, he tosses the objects to the side, into the gully. After I have done this once or twice, he begins to hand them to me. 'Where do I put this?' I ask. 'Where should it go? 'Where put?' he repeats. I ask if it should go to the side and he repeats this and I throw it to the side.

Later he is next to the wheelbarrow, standing still. I want to take his picture. I ask if I can take his picture for my research, so that I can remember this time we worked together. He doesn't say anything. I ask the question again and hold out my hands. I wiggle one while I say 'yes' and wiggle the other as I say 'no.' Which one?' I ask. He repeats 'yes' and 'no' when I say them, then reaches out and points to my 'yes' hand. I get out my camera and he stands straight and tall next to the wheelbarrow, looking at me while I take the picture.

Image 2: 'Jottings' from a field note session and related text in typed-up field notes

Limitations of observation

As suggested above, there were limitations to what I was able to observe, such as conversations and interactions that were inaccessible to me or related to sensitive or difficult issues. I also recognised that my observations and descriptions were influenced by my own positioning and assumptions. In an effort to record and respond to this, I paid attention to observable ways my activity and developing ideas shaped the practices and my interpretations. While observation was on the whole a useful method in pursuing the aims of this study, I also came to realise my own partial understanding of the practices and visits through observation alone. Therefore, I drew upon Gusterson's (1997, p.116) suggestion and adopted a more

‘polymorphous engagement’ with participants, augmenting participant observation with other methods of data collection, in particular interviews and documentary analysis.

4.6.2 Interviews and conversations

Interviews in ethnographic research take different shapes: from ‘relatively informal conversations’ to planned, formal events (Hammersley and Atkinson 2007, p.3). In this study, I participated in both. While interviews in research might be seen as a more humanistic method that takes place primarily between two people, I also drew from Fenwick and Landri (2012) who suggest that these methods can helpfully demonstrate sociomaterial dynamics, in how they are described by the interviewee and in gaining clarity or reflecting on my own observations.

In line with ethnographic methods more broadly, I did not plan interviews to do from the outset. Pursuit of informal conversations and the value of more formal face-to-face interviews became clearer once access was cleared and relations were established (Hammersley and Atkinson 2007). Once I began to be a regular attendee on the trips to the farm, I regularly had informal conversations with staff members about the class and outdoor learning experiences. These often happened during transitions, like when switching activities or riding in the van to and from the farm. They were sometimes unsolicited accounts of what was happening or other times emerged from my own questions. These conversations provided broader context for the trip to the farm and helped me understand more about the practices I observed and how they fit in with other aspects of the school and class beyond the activities that I observed. For example, I had numerous conversations with school staff about how the visits to the farm aligned (or did not) with the school culture, families, curriculum, and transition planning. As Falk et al (2017, p.4) suggest, such conversations can help ‘clarify and complement the observation.’ They also allowed me to ‘check in’ with staff members about young people’s communication requirements, including my understanding of Makaton symbols, pictures, or gestures. I also was able to reflect with the staff members during these conversations on any issues arising within the study, such as my role in the class

dynamic. The information that I collected from these informal conversations became part of my detailed field notes and was analysed within those.

I found these informal conversations valuable in both gathering useful context related to the farm visits and also sharing my own reflections thus far, but these conversations were often fleeting, brief, and interrupted. I therefore thought it would also be valuable to have a longer, protected time to talk to some of the teachers and tutors about the practices that I had been observing in and around the farm. I began with the main teacher, Amanda,⁵² who was the main driving force behind the class trips outside the school and who showed significant interest in my study's aims. I conducted a semi-structured interview with her near the end of the field work. To plan the interview, I drew from Mol (2002, p.16), who in doing her own practice-based study, suggested it might be 'better when interviewing people to ask them about what they do and about the events that happen to them, rather than about their thinking.' The purpose of the interview was to better understand what the class and teacher did in the visits to the farm – and how these events happened for her. I did this in two ways: by asking questions related to the practices and routines at the farm (see sample questions below) and also by introducing vignettes from my own observations as conversation prompts.

Sample interview questions:

- Describe a typical day at the farm.
- What do young people do on the way to the farm? When they are at the farm?
- What things do they do that might be new for them?
- What preparation happens in order to go the farm? What enables the visits to the farm? What gets in the way?

In addition to questions related to what happens in the outdoor sessions, I also attempted to bring the materiality of the farm sessions into the interview. I did this both through certain questions and also via written vignettes I shared with the

⁵² All participants' names have been changed to pseudonyms.

teacher to generate responses and discussion around the sociomaterial practices I had observed (See Appendix G for examples). This effort to bring the material into the interview reflects a technique used by others, like Hultin (2019, p.96), who invited 'material artefacts into the interviews ... to help the interviewees to provide richer accounts of everyday sociomaterial work practices that they often regarded as insignificant and thus, not worth talking about.' In introducing these vignettes, I hoped to support the teacher to focus on material details that she may not have talked about otherwise (Hitchings 2003). This was effective, in that it provided me with her knowledge of everyday activities, as well as more detail that helped me understand the practices more fully. For example, Amanda described the experience of taking young people outside and told me that, for one young person, 'the farm is the only time when he is not held physically. Nobody has to link arms with him. Nobody has to hold his handling belt.' This was not something I could have known solely through observation.

Furthermore, the use of the vignettes also introduced her to this aspect of my research, and she asked at the end of the interview if she could 'keep these [vignettes] and show them to my team. They would like to read these.' This approach helped me ascertain how early observations and findings aligned with participants' experience and helped strengthen my own findings and the study's trustworthiness (Hays and Singh 2012). I also attempted to have similar conversations with other staff in the class but these became practically unfeasible. For example, my attempted 1:1 interviews did not fit with staff schedules, and an organised focus group of school staff was interrupted after just a few minutes by an emergency at the school with a student and was then unable to be rescheduled.

4.6.3 Documentary evidence

There were also school-related documents and material artefacts that were important to consider in this study, as they were related to autism and experiences in the natural environment. Such evidence provide "'inside" written accounts' that are part of the phenomena under investigation (Hammersley and Atkinson 1995). The documentary evidence I collected was willingly offered to and shared with me,

often materialising out of discussions with school staff or from displays around the school. It included a risk assessment, school policies, student profiles, curriculum guides, communication aids, and behaviour management charts. They did not include personal documentation or students' educational or medical records, given the sensitivity of the material. The documentation collected helped maintain a focus on the importance of material artefacts in the enactment of practices in these outdoor experiences – for example, the importance of an up-to-date risk assessment – that may not be visible solely by observing the outdoor experiences.

4.6.4 Exiting the field

I was aware of the importance of being transparent and clear about my study and participation in the class and made explicit that the parameters of the field work would be for the school year. I was able to say goodbye to the students during their end-of-year school celebration event. I did visit the school a few times in the following year to keep in touch with teachers and students about the study's progress and to check some details of my observations and knowledge as I undertook analysis. At the time of submitting this thesis, the main teacher contacts at the school have left, either retiring or moving on to other jobs, though I still have contact with two of them and have agreed to share my findings with them, as agreed at the start of the research.

4.7 Data analysis

4.7.1 Entering the data with 'hot spots'

My analysis in this study developed from the research aims, theoretical framework, and emergent methodologies. Similar to the process of data collection, I recognised that the doing of the data analysis itself enacted my findings – there were not pre-existing 'findings' or 'themes' for me to uncover as I dug into the data. Instead, they would come to be through interaction with my interests, beliefs, and lines of inquiry. Along with this sensibility, I drew on MacLure's (2011) concept of 'hot spots' to find 'entry points' into the data. 'Hot spots' are parts or sections of the data that

particularly resonate with a researcher.⁵³ This is a particularly useful concept in this study because it recognises the process of analysis to be an entanglement between data and the researcher, rather than suggesting that researchers more objectively and at some distance develop findings from engaging with the data. ‘Hot spots’ are in effect entry points into the data at junctures that are particularly interesting or perplexing for the researcher – when some things reach out to ‘grasp us ... and animate further thought’ (MacLure 2013c, p.228). This suggests a mutual relationship between data and researcher – I and my data do the analysis together and do not ‘pre-exist one another’ (ibid). MacLure (2013b, p.662) describes how working with data in this way allows a researcher to be open to ‘becoming’ and doing analysis ‘without a predetermined destination.’

Such an approach to analysis aligned with O’Reilly’s (2012, p.30) suggestions that in an ‘iterative-inductive’ ethnographic approach, data collection, analysis and writing are ‘not discrete phases but inextricably linked.’ In this study, I was reflecting on the observations alongside the field work process and throughout data collection, recognising different regular practices in and related to the farm and how they were shaped in this environment. In practice, I made note of possible areas of interest, contradiction or further inquiry within my field notes throughout the data collection phase, and some early ‘hot spots’ I pursued in study and writing were as follows:

- The importance of routines in relation to autism and where they changed
- Practices of attentiveness and responsiveness between staff members and young people
- Preparatory practices related to getting the class and students ready to leave the classroom, as well as organising the activity
- Practices related to bodies in the natural environment, including those involving food and clothing

⁵³ Others writing about ethnographies have used similar concepts. For example, O’Reilly (2012, p.184) suggests that the ‘beginning of analysis ... are those flashes of insight ... that arise out of thinking.

- The role of certain material things in bringing together or holding practices, like waterproof clothing

The early identification of some entry points inevitably influenced subsequent data collection, either through the observations and patterns I noted, where my attention was focused and what questions I asked. However, I also recognised that it was important to remain open to new and changing practices, rather than just looking for previously identified entry points of ‘hot spots.’

4.7.2 How the data analysis unfolded

Once the field work was complete and I had identified entry points along the way, I repeatedly read the field notes, interview transcripts, and documentary evidence in an effort to understand how practices related to ‘hot spots’ or areas of interest took shape. I recognised that the commonly used qualitative analysis strategy of ‘coding’ the data is controversial in some sociomaterial approaches, as it is seen to categorise and order data in ways that suggest fixed relations between and essential qualities of things (St. Pierre and Jackson 2014). However, I also agreed with MacLure (2013a) who suggested that coding can be useful for enabling careful, detailed reading of data and could be used in conjunction with other sensibilities more open to emergent understandings. She suggested (2013a, p.181) that researchers consider coding and engagements with data as an ‘experiment with order and disorder, in which provisional and partial taxonomies are formed, but are always subject to change and metamorphosis, as new connections spark among words, bodies, objects, and ideas.’ Therefore, I balanced an affective, relational approach to entering the data via ‘hot spots’ with coding processes in order to identify practices across the field notes, interview transcript, and other documents. This helped me recognise the breadth of encounters and practices I had recorded in a more fine-grained way than relying on my memory might have allowed. To do this, I used broad open coding that notated sociomaterial practices related to autism or involving autistic young people, which helped me identify practices across field notes and different artefacts. These visual artefacts, including Makaton illustrations, school

documents, photographs, and sample laminated picture symbols used in class also helped keep the materiality of the site and experience in mind as I produced the analysis. This mixture of coding and emergent analysis of 'hot spots' through writing supported an 'open-ended and ongoing practice of "making" sense' (MacLure 2013a, p.181).

As analysis progressed, I kept notes in order to compile my developing understanding of what practices happened in and around the trips to the farm and also to collect insights, ideas, or 'theoretical notes' from the analysis but in conjunction with concurrent reading (Strauss 1987). I furthermore wrote 'memos' related to the 'hot spots' and areas of interest I identified – such as 'food practices' and 'preparation' – where I recorded insights from my interaction with the data and other relevant literature. These different memos were prompted by the research questions and supported a careful, detailed examination of the different practices in relation to the farm and autism, eventually forming the analysis found in the next three chapters. This process helped me further identify relevant or particularly interesting parts of the data to include in the memos and to possibly use as illustrative vignettes in this thesis. Writing up notes, ideas, and analysis from a sociomaterial perspective was at times difficult, as I found that I often used active verbs for the people and less so the things. As with the other stages of research, I had to actively work to keep a sociomaterial perspective in the forefront of my thinking. Engaging with related literature and writing were woven throughout this process.

I recognise that analysis is not simply an internal process that happened as I read and thought about the things I had seen and notes I had taken. It is also produced in the process and act of writing. The writing and revising of the vignettes demonstrates this point. I often wrote the first drafts of the vignettes from close readings of the field notes, including passages from the notes much as they had been written. These went through further revisions, as the analysis chapters took shape and some details in the vignettes became more important to highlight than others. This process of shaping and pruning was a subjective process to support

coherence and to illustrate points concisely. In the process of writing, new insights also developed that may not have occurred to me at the time of observation or note-taking. For example, during one field work session, a staff member commented that a young person had gone into 'his autistic mode,' an observation notable at the time because it was one of the few verbal utterances of the word I had heard since starting my field work. But when later writing about the instance and joining it with readings around 'multiplicity,' I interpreted a different meaning – as a way to see 'autism' as internal and singular, but also partial, one of many 'modes'. This was one of the more challenging aspects of analysis, as there was much to examine when casting a wide net to look at sociomaterial interactions and practices with these participants in an outdoor environment, without knowing what might become particularly meaningful. Of course, this is the challenge of such approaches to research -- in order to maintain a focus on research aims and because of practical limitations, some areas of inquiry cannot be pursued.

In the analysis chapters that follow, I use vignettes to describe what I observed and to ground the analysis. The use of stories or 'vignettes' is commonly used in ethnographies. I found them particularly useful in illustrating the detailed social and material aspects of the activities, describing the practices that were observed, and allowing for the dynamism of the experience to be shown (Simmons and Watson 2014; Law and Moser 2007).⁵⁴ The vignettes in this thesis were chosen because they aligned with or demonstrated 'critical incidents,' 'hot spots,' or illustrated key areas of analysis that were produced in the examination and writing around the data.

4.8 Chapter summary and introducing the analysis and findings chapters

This chapter has described the sociomaterial ethnographic approach that I used in this study in and around visits to a local farm for one post-16 class in an UK special school. I designed the study with O'Reilly's (2012) 'iterative-inductive' framework in mind, meaning that I could be responsive to the site of study in choosing appropriate

⁵⁴ The vignettes are mostly descriptive accounts of the scenes and activities I participated in but also include personal narrative of my own involvement and interpretations, in an effort to record and demonstrate my reflexivity in the field and how it shaped the resulting practices and encounters.

and useful methods of data collection, analysis, and ethical approaches. I have described the primary methods of data collection and analysis that I used and explored some of the ethical considerations I needed to take throughout the research process, not least of which was how best to communicate with and seek consent from young people about the study and how to manage my own role in the practices in the school. The sociomaterial framing influenced the way data was collected, analysed, and presented in this thesis, in that these activities are enacted through practices themselves and never separate from my own participation in them.

The next three chapters in this thesis describe the findings and analysis of my study and are briefly introduced here. While the main focus of the study is on the experiences in the natural environment of the farm, Chapter 5 takes a closer look at the *preparatory practices* that got young people outside the classroom and supported the farm visit. From the outset and because my field work started and ended at the school, it became apparent that the practices at the farm were not solely bounded within that place and owed much to preparatory activity. In understanding what happened in the natural environment, it was important to recognise how the encounters were enacted through preparatory practices across different sites and involving human and non-human actors that never actually visited the farm. Moreover, a closer examination of these practices showed how the visits to the farm were also part of wider preparation activities for life 'outside' the school.

Chapter 6 focuses on the role of the *materiality of the farm environment*. Through my lengthy sessions at the farm and with the intentional emphasis on the role of the material as well as the social world in producing these outdoor experiences, certain aspects of the material world became particularly interesting. These are examined in more detail in this chapter, and they include how the open (yet bounded) spaces, evolving landscapes and multiplicity of things like plants, soil, and human-made objects allowed for everyday practices and student-teacher relations to shift.

And, lastly, Chapter 7 examines *the importance of bodies* in the sociomaterial relations and practices that enacted autism in this study. In the process of examining sociomaterial practices, I came to recognise that many of the important practices and routines took shape around bodies, as participants often communicated in embodied ways and had particular sensory experiences, and pedagogical practices regularly involved behaviour at the level of the body. The point of the sessions at the farm was in many ways to ‘get bodies outside,’ and these bodies themselves enacted many practices to make this goal happen or to resist it. It is important to note that rather than examining the human body as a singular or separate thing, I noted how bodies became in relation to other people and things in the practices observed.

Before starting the analysis in Chapter 5, I first provide an overview to the different characters – the people and places – involved in this research.

Interlude: Introducing the people and places in this study

Introduction of this section

Before beginning the analysis, I provide here an overview of the people and context of this study. In particular, I introduce Ashdown School, the post-16 classroom, and the students and staff who participated in the study and are featured in the analysis chapters. I also provide some background context to the farm and educational frameworks important to the class experience, specifically the Award Scheme Development and Accreditation Network (ASDAN) curriculum and Applied Behavioural Analysis (ABA) approach.

Introducing Ashdown School

Ashdown School is a UK special school that, like many special schools, works with children across the entire range of school years – from nursery through to post-16 levels. Ashdown School drew its catchment from across a wide geographical area, meaning that the student body was diverse in many ways. Students came from different cultural and ethnic backgrounds. Most students were bused in from around the local area, so families were rarely present at the school though there was very regular communication between home and the classroom.

Across the school year of field work, there was a large cast of characters that became part of my experience and field notes. It would be overwhelming to name and describe them all, so those listed below were the ones most commonly observed and influential in the analysis and who appear in the vignettes presented in this analysis. In particular I include the autistic young people I observed, other students in the class, staff who participated in the study, and the places and things that were prominent in the outdoor experience and the vignettes that follow.

Introducing young people

The post-16 class contained a diverse group of young people between the ages of 16-18 when I met them in October 2015. Some but not all had a diagnosis of autism, and some of those who are autistic also had other diagnoses. The teachers talked to me on multiple occasions about the changing demographic of the students coming into the schools and classroom, as they had increasing numbers of students with complex needs but of a different sort than those they had seen before. They reported that there were more students with challenging behaviour and/or autism diagnoses than there had been previously, and there was a sense that other schools in the area had seen similar changes. This had implications for the school culture, staffing, and types of learning activity they needed to provide. For example, a teaching assistant who had been working there a long time told me that the student-staff ratio used to be much wider but that young people's needs had become more complex so they now required more staff, particularly for days out. The students in this class used a range of types of communication, including verbal communication, Makaton (a communication system that uses signs made by the body – mostly hands, face, arms and torso), picture exchange communication system (PECS), iPad programmes and other gestures. There was a mix of ethnicities in the classroom but for reasons of maintaining anonymity, I have not included specific ages or ethnicities in the descriptions below.

Alex had a diagnosis of autism and used verbal communication and some Makaton. He always attended school with an ABA tutor.

Ali was in his final year at the school. He had a diagnosis of autism and used some verbal communication and often attended school with an ABA tutor.

Mo had a diagnosis of autism. I did not hear him use any verbal communication, and he was more likely to communicate his wishes through his body movement or by using his hands.

Tilly had a diagnosis of autism. I did not hear her use verbal communication, and she used Makaton, body language, and other noises to communicate. She often attended school with an ABA tutor.

The other students in the class did not have a diagnosis of autism, so were not the primary focus of observation in this study. They used a range of communication methods and had various support requirements. The main class teacher told me that the wide range of needs that young people had in this classroom was unusual in the school, and staff members had to work hard to include, differentiate and attend to everyone's different requirements. Some young people in the class also featured in the vignettes in this analysis, including **Annabelle, Cat** and **Sam**. The small amount that other young people are featured here does not mean to suggest their participation and contributions were not an integral part of the study – they were. However, to include a broader look at other students in classroom practices would dilute the focus on those related to autism, which was my priority.

Introducing school staff and ABA tutors

In each session, there were between 2-3 teachers and high-level teaching assistants (HLTA) in the class. In addition, there were other teaching assistants (regular school-based staff) and support staff (usually more temporary or bank staff, sometimes brought in via a recruitment agency) and ABA tutors who attended each week. Those that feature in the analysis vignettes are included here:

- **Amanda:** She was the main classroom teacher and the lead for post-16 in the school. She was secondary-school trained and also had management responsibilities in the school, which meant that she was often on-call or working in the office and was not leading at a classroom level as much as she used to. Amanda was also the main driver behind the class trips to the farm and other places and had made the practical arrangements to put these trips into action.
- **Jo:** She was a high-level teaching assistant and, along with Emma, often took the lead in the daily activities. She had worked in the school for a number of years, was highly experienced and was nearing retirement.
- **Emma:** She was also a high-level teaching assistant and had significant experience and a long history of working in the school. She worked part time.

Teaching assistants, support staff, and ABA tutors:

- **Jackie:** She was a teaching assistant, a long-time member of the school staff, and also a parent to a child who attended the school.
- **Tess:** Regularly attending support staff member
- **Matt:** Regularly attending support staff member
- **Eva:** Occasional school-based support staff
- **Harriet:** ABA tutor, usually working with Alex
- **Kelly:** ABA tutor, working with either Tilly or Ali

Introducing the post-16 classroom

The post-16 classroom was a large, open space with areas for different activities and purposes, including a kitchenette, large configuration of joined tables, bathroom, and staff desks located in the back. Outside the classroom was a small room with hooks on the wall for coats and bags. On the classroom door were large pictures of each of the students dressed up in disguise. In the front of the classroom and to the right when entering, there was a circle of chairs and couches facing a large whiteboard projector on wheels in the front. The couches and chairs were a mix of soft furnishings, some covered with throws to make them more comfortable, and classroom chairs. Behind the sofas and chairs was a door leading to a small sensory room where sensory objects and various classroom supplies were stored, and on the far wall were a series of small windows located up high.



Image 3: A section of the wall display about the trips to the farm

Introducing the farm

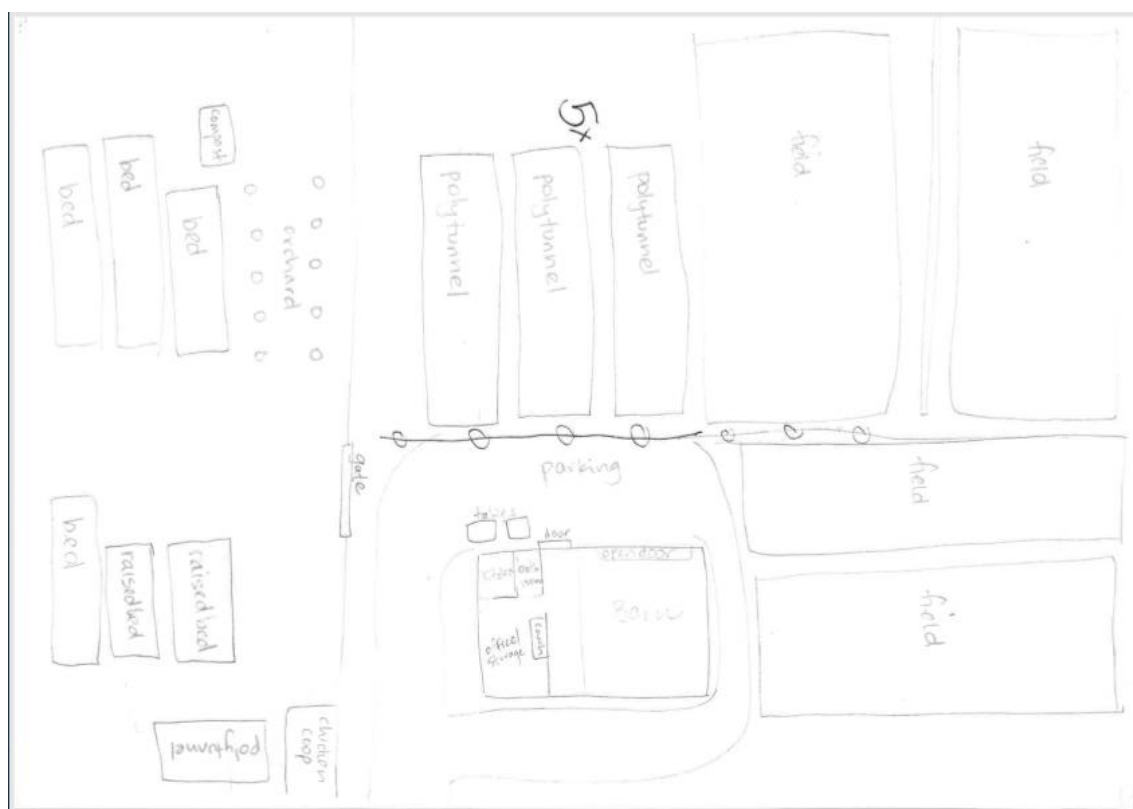


Image 4: Sketch of the farm layout, from one of the early field work sessions

The farm was in a rural area just over 20 miles away from the school, a journey that usually took about 45 minutes. It was comprised of a large barn, 4-5 polytunnels, and four large fields. The farm was a small community-oriented venture, and it provided a vegetable box schemes and sold produce at markets. It was run using organic methods (though was not certified organic), provided space for community members to have small allotments in one of the fields, and was intentionally an educational and supportive setting for groups and, in particular, disabled people. There was one farm manager who ran the venture, and she was supported by local volunteers. There were also other school groups from a local mainstream school who we met there on occasion, also doing work experience. On the farm there were a number of things that were regularly used by the group or become integral to their regular visits – such as tools, garden gloves, the polytunnels, wheelbarrows, the bathroom in the barn, open fields, harvested vegetables, and bantam hens.



Image 5: View of the farm's polytunnels from the car park

Introducing the school curriculum and ASDAN framework

The post-16 class worked within a national framework – ASDAN – and the trips to the farm aligned with the ASDAN curriculum. They had just introduced a new curriculum that year, and it focused on functional skills that could be generalised into life in the community outside school and that were documented on an ‘achievement continuum.’ Within the ASDAN framework, young people were given individual targets and progressed towards awards or certificates. The ASDAN activity that the farm visits linked to was ‘Visiting community facilities over a period of time’ and young people had individual targets within this activity. These were also related to ‘functional skills’ (which were described to me by one teacher as more ‘Tory and academic’) that aimed to make the transition out of school easier – for example, walking around the field unaided or using Makaton to sign when they needed or wanted something. This curriculum framed the class’ learning activities. It also created pressure for teachers to ensure young people made progress, as teachers reported there was an expectation from Ofsted that students would progress to qualifications, which was a key driver for many special schools in the area.

	relationships (Pg:86) *Engaging with the world around you: therapies (Pg:116)	*Engaging with the world around you: therapies (Pg:116)	*Engaging with the world around you: therapies (Pg:116)
Community Participation	Mandatory - Personal Progress: Developing community participation skills – caring for the environment (pg: 51) Bespoke – Teacher to select one from the following modules: Participating in sporting activities (Pg:56) Using a community facility over a period of time(Pg: 84) Getting out and about (Pg:52) Personal enrichment (Pg:60) Travel within the community: Going places (Pg:62) Using local health services (Pg:64) *Encountering experiences: being part of things (Pg:106) *Engaging with the world around you: people (Pg:108)	Mandatory - Personal Progress: Developing community participation skills – caring for the environment (see pg: 51) Bespoke – Teacher to select one from the following modules: Participating in sporting activities (Pg:56) Using a community facility over a period of time(Pg: 84) Getting out and about (Pg:52) Personal enrichment (Pg:60) Travel within the community: Going places (Pg:62) Using local health services (Pg:64) *Encountering experiences: being part of things (Pg:106) *Engaging with the world around you: people (Pg:108)	Mandatory - Personal Progress: Developing community participation skills – caring for the environment (see pg: 51) Bespoke – Teacher to select one from the following modules: Participating in sporting activities (Pg:56) Using a community facility over a period of time(Pg: 84) Getting out and about (Pg:52) Personal enrichment (Pg:60) Travel within the community: Going places (Pg:62) Using local health services (Pg:64) *Encountering experiences: being part of things (Pg:106) *Engaging with the world around you: people (Pg:108)
	Personal Progress – Participating in a mini enterprise project (See pg:71)	Personal Progress – Participating in a mini enterprise project (See pg:71)	Personal Progress – Participating in a mini enterprise project (See pg:71) (collect

Image 6: Documentation of ASDAN framework, with aspects related to the farm highlighted by a teaching assistant

Introducing the Applied Behavioural Analysis (ABA) Programme

Three of the young people with autism had occasional or regular ABA support and tutors that accompanied them when they were in the class. The teacher explained this arrangement to me the first time we met. She said that the ABA tutoring was time-intensive and currently funded by the local government. Some of the families of these young people had gone to tribunal to seek funding from the local authority to keep the ABA tutoring going during this post-16 phase, and the ABA tutors were responsible for organising and delivering educational programmes for these three young people’s education. If, for example, a tutor did not think that the school programme or curriculum was useful for the young person, they could take them out and do other activities with them. The teacher said that having the ABA programme run alongside the school-based curriculum caused tension between the different pedagogies and approaches of the ABA tutors and the school, but that her priority was to work with the young people through the school programme. So everyone had agreed to work together as best they could. In practice, the ABA tutors regularly accompanied young people they were working with, reminding and supporting them to change or demonstrate a target behaviour, such as using Makaton or spoken language to communicate or curtailing unwanted behaviour. Each young person also had a laminated behaviour chart and would be given small laminated stars or coins when demonstrating the target behaviour, working up to a daily reward.

Chapter 5: Preparing for the ‘outside world’

5.1 Introduction to Chapter 5

Experiences of learning outside the classroom are influenced by and dependent upon a complex set of factors (Dillon et al 2006; Power et al 2009) and prominent among them is the importance of preparation and planning. Morag and Tal (2012, p.746) conducted a small-scale study suggesting that to understand the educational experience of visiting a natural environment, it is important to ‘look at the planning and coordination that occur before’ the trip, in addition to what happens outside the school. They found the effort required for planning and preparing to leave the classroom and go outside was significant and could be a barrier to undertaking these activities in the first place. Mannion et al (2013) undertook a study involving collaborative practices of planning and enacting outdoor learning experiences and also found preparation to be an important aspect of these experiences.

The importance and effort involved in preparing for school-enabled visits to a natural environment also became evident in this study, where practices related to the trip to the farm did not stop and start at the school doors. Instead it became clear that outdoor learning experiences permeated other parts of life at the school and were dependent on practices in the school and at homes. Mol (2002, p.17) suggests that such an extended set of practices ‘all matters’ and in this ethnography, the preparation for going outside into the natural environment certainly mattered. These practices both enabled the activity to happen and were also performative. How they were undertaken shaped relations between the people and with the farm environment that in turn enacted different possibilities at the farm and beyond. Indeed, I found that these preparatory practices for encounters at the farm were tied to activities preparing young people for their transitions into the wider world outside the school. This chapter opens with an extended vignette of one example of Ashdown School’s preparation to go to the farm.

Vignette 5.1

I arrived in the classroom one morning to find a rather subdued atmosphere. The light in the room was low, with only the lights above the circle of chairs and sofas turned on. There were six students and two staff members sitting around the circle, singing the morning welcome song. One of the teaching assistants, Jackie, sat in the middle of the circle facing Sam, holding his hands and welcoming him to class. I waved at another staff member, Jo, who looked up and smiled. There was an empty chair next to Sam, so I sat there. As I did, he shifted in his seat and took his hands from Jackie's, looking down. I wondered if I disturbed the rhythm of the activity by sitting there. There was a pause, and the staff members seemed to observe the group, watching to see how things would settle after my arrival. I saw them do this often, looking alert as if ready for something unexpected.

Things stayed settled and Jackie worked her way around the circle, singing to each student. At the end of each song, the student took their laminated photo from the Velcro strip that she held and walked over to attach it to the classroom board at the front – their way of 'checking in' for the day. As we sang, other staff and students trickled in. Tilly arrived with her ABA support worker Kelly and made a quick beeline straight for the seat on the couch that was her normal spot. Another bank support worker, Eva, was already sitting there and saw Tilly coming towards her. Eva got to her feet and asked if Tilly wanted to sit there. Tilly said nothing, sat down forcefully and dropped her coat on the floor. 'You might have been sat on if you hadn't moved,' laughed another staff member.

After the morning songs, Jackie got out the visual timetable – a set of laminated pictures with associated words attached by Velcro to a rectangular board. She read out the day's schedule – circle time, bus, snack, farm, lunch, work, bus, circle time. Amanda, the main classroom teacher, then stood in the middle of the circle and told the group it was time



Image 7: Laminated picture of the farm used for class and individual 'visual timetables'

to get ready to go to the farm. She changed her tone slightly to address staff in the room and said she had revised the risk assessment with new student 'PHP's'⁵⁵ and that everyone needed to read and sign it before they left. She finished off with the usual, '5-4-3-2-1, circle time is finished.'

Staff members began to bustle around to get things ready for the farm. Amanda handed me a copy of the risk assessment and talked about the work she was doing to support three of the students finishing at the school this year. Because many students are at the school from ages 3-18, the transition to the outside world could be difficult and worrisome. As we talked, staff around us gathered bags of wellies, waterproof clothing and supplies like wipes, pads, plates, cups, and 'Bruce', the so-named bag of medical supplies. These supplies got collected in a pile, then carried out when the students and staff left the room. It took a few trips to get the bags and lunch from the kitchen loaded into the van, a process usually coordinated by Jo who held a small scrap of paper with a list of all students and adults going.

The walk through the school to the bus was usually very fluid. From the classroom to outside, there were three rooms and four sets of doors to walk through, and some of the doors had lock release buttons or handles set up high. Despite Jo's clear delegation on who should accompany which students, the groups often changed as students sped ahead, or fell behind in the opening and closing of doors. On this day, I carried bags of wellies and walked with Ali to the bus. We left the classroom and he strode with speed and purpose through the doors, stopping to put anti-bacterial gel on his hands in the hall. He did not wait for me and made it to the bus on his own, where he climbed in as I caught up and loaded the wellies into the back. Seating was done strategically on the bus, and today I sat in the front with staff members Jackie and Jo, the designated driver – though it is not a job she relishes. Sometimes the transition to the bus could be difficult if young people became upset, but today's was ok. Once everyone was strapped in, there was a sense of relief that the transition to the bus was over and the next leg on the journey to the farm could begin.

⁵⁵ 'personal health plan'

5.2 Considering practices of preparation

Practices of preparation surrounded and anticipated the journeys to the farm. As partly seen in this vignette, preparation for spending significant time outside took substantial effort long before walking out the doors. This preparation happened both through routine practices that were pro-actively planned long before the trip (like securing the bus, being trained as a driver, liaising with the outdoor site, and getting buy-in from families and school management) and those that were more responsive in the moment. Advanced planning was led primarily by Amanda but also required daily management and significant work from other classroom staff.

However, these advance preparations could also be undertaken in vain. A number of sessions to the farm were cancelled. Sometimes the weather was poor, the staff-student ratio was not sufficient to support the young people attending, or young people demonstrated difficult behaviour. So new plans had to quickly be developed and put into action. Seemingly secure plans sat alongside uncertainty and risk, and there was a related sense of palpable attentiveness and responsiveness to what a day might bring. When considering these practices of preparation, four aspects in particular stood out and are looked at in this chapter: practices of attentiveness, responsive practices, preparing for risk, and preparing for uncertainty and future selves.

5.2.1 Practices of attentiveness

In this classroom, the young people were often very well known to the regular members of staff and this was visible in staff practices, discussions, and the materiality of the classroom. Many staff members across the school had known some students for a long time and demonstrated familiarity with their preferences in communication, behaviour, and activity. The room itself was laid out in accordance with this knowing in explicit and nuanced ways – pen portraits about and artwork from each young person graced the walls and their preferred seats or equipment to play with were also known and made available.

However, this breadth of knowledge was often also not stable or sufficient in knowing what might happen or ensuring an uninterrupted schedule or activity as both young people, staff members, and a day's events were often unpredictable. Instead, there was an ever-present sense of uncertainty about how the day might unfold and how young people would respond to its unfolding. Even well-planned routines and practices – such as the morning circle time or accompaniment of students to the bus – changed in response to different stimulus or encounters with visitors or new staff members. There were often new faces in the support staff team, and their induction into the classroom was necessarily brief. Teaching staff who had been at the school a long time usually directed activity and sustained classroom practices, but even their positions were tenuous as staff could be moved to different rooms each year without much warning, a source of anxiety that was occasionally shared with me. Combined with moves across school buildings, sometimes unreliable transportation, changing food menus, and shifting health requirements and moods of young people, this classroom shared a feature common to most formal educational environments – no two days were the same.

Perhaps resulting from this uncertainty, I observed and felt a palpable sense of careful attentiveness from school staff to the individuals and dynamics within the class during the day. This attentiveness to individuals and their relations presented in different ways, through quiet conversations between staff or with students, pauses in activity or conversation, watchful looks, and touch. It was sometimes more felt or seen rather than verbally articulated, as when I entered the room and took a seat, disrupting the flow of the welcome song. Practices of attentiveness were often focused on young people's bodies – where their bodies were in the space, what actions they were performing, how they responded to stimulus, evolving health needs, communication through bodies, or what food and clothing was needed for sustenance and warmth. There was also a level of physical closeness among bodies that might be more unusual to see in other classroom spaces. Students and staff often sat next to each other on sofas or closely face-to-face to say hello. Staff members sometimes walked arm-in-arm with or touched students on the hand to get their attention or welcome them to the day. The level of attention on young

people's behaviour and bodies may have been partly because observation was a main way by which knowledge was gained about many of them, particularly for those who do not regularly communicate verbally – this is discussed further in Chapter 7.

At times these practices of careful attentiveness seemed to foreshadow an expectation of disruption, as if there was a suspicion that the existing plans may not come to fruition. This sense of uncertainty was built into formal, materialised processes like risk assessment documents, and it was also notable in the moment-to-moment practices of attentiveness. Indeed, there was a complicated interplay here between how much preparation could anticipate a particular disruption – be it bad weather or a medical need or a newcomer's arrival – or how much people should simply be ready and watchful for some unknown one. And, through the attention paid to the unfolding of classroom interactions, a shared goal was often maintained despite the multiple goings-on and emergent activity. Those involved worked together to get ready to go outside – though even this shared aim was precarious and could be disrupted.

I also observed these practices of attentiveness within the performance of classroom routines. It was clear early on that the class had regular routines. There was a regular, sequential order of activities that took place each day, expected ways of participating, and an anticipated schedule of weekly activities. These routines were often put in place and sustained by staff practices, but they also became reinforced by material arrangements like a circle of chairs and visual timetable and young people's own expectations. However, within these structured, regular routines, the actual practices and encounters were not consistent or stable and there was some level of improvisation. During a different morning welcome circle, the singing session was boisterous and active, as Tilly walked around the circle and Ali bounced vigorously in his seat. When the instruments later came out, Ali shook and bounced to the beat for a time, then put his maracas in his lap and picked fluff off his jumper string and blew it into the air, a common sight. The routinized activity of the

welcome circle was known and attended to by young people, but it often was interrupted by and sat alongside their own rhythms and attentions with the world.

Another example of how practices of attentiveness sat within routines was seen in how young people were greeted in the morning. In the welcome circle, each young person was asked to say good morning to the teacher and this was different for each young person. Ali often said 'good morning,' Alex might shake the teacher's hand, and Mo usually took some time before grabbing his laminated photo from the Velcro strip and putting it on the wall. These interactions were often characterised by pauses and close watchful looks from the teacher and the young people. Many of the young people took time to respond and sometimes needed encouragement to do so – a quiet word or sometimes a long period of silence. In these interactions, attentiveness to young people's own rhythms temporarily dominated these classroom encounters, as the other students and staff waited together for each completed transaction, for the laminated picture to be placed on the wall. The attention to and acceptance of young people's own rhythms and responses allowed young people to in a sense lead the activity. In summary, the practices of attentiveness I observed – including moments of watchfulness, encouragement, touch, silence – acknowledged and prepared for uncertainty in moment-to-moment encounters and interactions within more stable daily classroom routines.

5.2.2 Practices of responsiveness

The attentiveness described above went hand-in-hand with practices of responsiveness – in other words, practices that reacted and responded to changes in behaviour, activity, and relations. As suggested above, some preparatory practices were done well in advance – like gaining parental consent or packing waterproof clothing – while others were more responsive, like setting up and adjusting the seats in the circle, revising the day's activities, even communicating through gentle touches to a hand to encourage a response. These responsive actions adjusted to what the day brought, both within its expected routines and unsuspected surprises. For example, within the welcome circle routine, Tilly wanted to sit in the same spot,

but she might arrive late or not at all – and when she did, someone else might already be sitting in her spot and her entry then disrupted the flow of the session. The welcome circle held but the practices and encounters were evolving and dynamic. On a different day, another young person, Alex, arrived late with his support worker, Harriet. Circle time had finished, but some staff members knew that Alex appreciated having a routine, so they held a separate and smaller welcome song and circle just for him. Such examples also demonstrated how some practices and routines held with more certainty than others – circle time was held together with temporal, spatial and material sameness. It happened at the same time, in the same place in the room, with the same seats, songs, structure and instruments. Young people like Alex came to expect these elements as they became part of their own routines. However, as discussed earlier, these routines never looked the same and practices could be disrupted by various things and people – new staff, changing health needs, bad traffic, visitors, or young people getting out of their seats, for example.

Furthermore, regular practices both sustained routines but could also disrupt them. It was not clear who would attend the day, what mood they would be in, what the weather would offer, or how young people might change. But this uncertainty was deeply embedded in the class practices, and the uncertainty itself was acknowledged and known. Somehow these interactions were both predictable yet uncertain, and the preparations for going outside – indeed for leaving the classroom – must respond to the reality that unfolded and not necessarily to the one that was planned. Attention to this uncertainty manifested further in conversations about risk, discussed next.

5.2.3 Preparing for risk

As discussed in the literature review in Chapter 2, children and young people's time spent in the outdoors is often affected or limited by perceptions of risk (Gill 2007; Travlou 2006). In this study, these perceptions often generated practices related to assessing, managing, and controlling those risks. These perceptions were made

manifest through printed risk assessments, protective clothing, and medical supplies that accompanied every journey. The perceived risks associated with the visits to the farm themselves were openly discussed, acknowledged, and considered in the activity planning and came both from the actual outdoor activities (e.g., use of tools, unstable ground, open spaces, stinging nettles, individual health requirements) and the young people's bodies and behaviour. These were sometimes shaped by what had happened in similar experiences before – by 'traces' of past trips outside perhaps – and also by yet unknown possibilities. Some of these risks were general ones that applied to the class' everyday activities (e.g., risk of seizure for one young person) and others were particular and responsive to the farm destination, emerging from considerations of the class in relation to the farm environment (e.g, 'tripping/falling on uneven surfaces').

But there were also other tangential yet powerful risk concerns that led to less formal but equally considered practices of mitigating risk. On more than one occasion, staff members commented on how other colleagues in the school considered their out-of-school activities to be high-risk ones that should be discouraged. The trip to the farm was seen to be a risky endeavour and going outside was facilitated by having staff in this class who were willing to accept the risk. Similarly, some students' families reportedly had concerns about their children's interactions with the natural environment, including touching germs, dirt, and animals. The possible spectres of discouraging colleagues and germs and dirt enacted further preparatory practices. For example, wellies and waterproof rain gear were loaded into the van for most outdoor sessions alongside the young people, to the chagrin of many staff members who knew how long it took to change clothes at the beginning and end of each visit. One teacher explained to me that some parents in the school liked to keep their children 'immaculate,' hence the covering up. The staff's consideration of and response to parental reactions was a way to keep young people safe, dry, and warm but was also a conciliatory nod to parental concerns of cleanliness and hygiene. School colleagues and parents and carers who had never been to the farm still retained a palpable influence on what happened there.

These complex encounters with the materiality of the world and its dirt and germs are further examined in Chapter 6, but the preparations made for them are important to consider in relation to how autism was enacted. In this study, risks related to the natural environment of the farm were partly managed by protecting or separating the body from nature – even while being in it. The goal of the activity was to spend time in a natural environment but this could only be done if still partially separated from the materiality of that environment, perceived in this enactment to be potentially harmful. This separation was needed to accommodate a version of autism and youth that must be kept clean, safe, and protected. By returning the young people clean and free from evidence of outdoor activity, the activity remained bound to the outdoor site, and families and school staff did not see any evidence of their interactions with it. As a result, they also remained separate from what the outdoor experience might offer or what young people might become there.

These protective practices did not just cover up bodies but also covered up more emergent relations with the materiality of the world. Furthermore, these protective practices of preparation not only mitigated risks related to health and parental concerns, but they also safeguarded the very activity of going outside itself. There was a risk that the visits to the natural environment could end if they were seen to be unsafe, and the staff members who valued these visits saw going outside as a vital aspect of preparation for young people's longer-term future selves, discussed below. The protective practices seemed to suggest that if the reality of encounters with dirt and germs became visible on bodies, then the outdoor visits themselves might be threatened.

5.2.4 Preparing to become part of the world 'out there'

Though this study was not necessarily focused on the futures of autism or the young participants, I would be remiss not to recognise the connection these day-to-day practices had with possible futures. As Tavory and Eliasoph (2013, p.910) contend, the 'ghosts of many possible futures haunt any interaction.' The young people in the

study were on the cusp of transitioning from Ashdown School into further education or other social care services, and much of what happened in the classroom was done with this in mind. The everyday preparations for going outside could be seen to be situated in a much bigger picture, one of preparing the young people for futures in which they might thrive and participate. It was not just student behaviour, staff values, classroom practices, or school policies that influenced and drove the impetus for outdoor learning in this context. Other educational institutions and government policy were also influential, in the assessments of 'progress' and of young people's potential future contributions to society. Amanda explained to me that government funding for college places these young people might pursue now required evidence that the college provision would be 'economically viable,' meaning that there needed to be evidence of progress to certain levels and some demonstrated potential for employability. She said she would likely be unable to demonstrate that for these students, and she was frustrated with the defined parameters of progress and employability. 'Would you say that working in a charity shop with some support is employable? I would but that is not considered to be employable now,' she said. Her concern reached into the social care sector in general, which she said was not prepared for funding the increasing influx of 18-year-olds they would soon have.

Therefore, the practices related to going outside were influenced by another facet of preparation – progress and transition to the next life stage. Staff members' recognition of these upcoming transitions could be seen in ways they supported change and transition more broadly. For example, the class had moved from another school building at the beginning of the year and Amanda described to me how she had worried the move would be disruptive for the students. One of her strategies had been to model the new classroom layout on the previous one so it might feel familiar and so students would transition more easily. She reported that the students had coped well with these changes and that perhaps moves like this could also help prepare them for upcoming changes and transitions. This was one example where planning for certain post-Ashdown futures moulded by funding, institutions, and opportunities intermingled with daily activities in the class.

What may seem like mundane, everyday actions and practices were therefore also responding to considerations of the 'future selves' of these autistic young people. The practices of attentiveness and preparations for learning activities could also be seen to relate to the uncertainty and anticipation of young people's futures. In some cases, the explicit plans for young people's future after post-16 education were still insecure and those aware of and considering them – like the teaching assistants, teachers, tutors, and presumably families – were anxious about what young people's next steps might be. They also knew that what they were able to do with young people in the post-16 classroom influenced those transitions, but there was a balance between pushing future-oriented targets that demonstrated adequate progress towards pre-determined goal posts while also supporting young people's day-to-day interactions and present lives.

Young people's 'learning' was tied up in these anticipated future selves, in their development towards different possible futures. But the practices and goals related to learning also conflicted. The ASDAN framework, related to external assessment of progress, accountability, and ultimately funding for future education, influenced one set of practices related to student progress targets. These were also precarious, as frameworks and expectations sometimes changed from the government and Ofsted. Such practices, however, sat alongside ABA-influenced ones, which had a separate set of targets and expectations for three of the autistic young people in the class. The ABA programme used a more regimented set of practices and motivating objects to change certain behaviours – further discussed in the next chapter on materiality. Even the ABA practices were unstable, however, as the council funding that supported them was unlikely to continue into adulthood and practices between ABA tutors also varied and sometimes unravelled in different contexts. The main point here is that the educational practices related to 'learning' are perhaps intended to be logical, stable measures of progress but are in reality complex, at times fractious, conflicting, and oriented as preparation to different versions of young people's futures.

This section has shown how the class' activities were preparatory practices for different 'outside worlds' – the world outside the school and the world after schooling. The weekly visits to the farm were only partially undertaken for the farm activity and interactions with nature. They were also part of a wider production of preparation for young people's anticipated futures in the world that currently exists. This was driven by different motivations, as discussed by some staff who explained the reasons they wanted to take young people outside the classroom – from desires to prepare young people to cope with a world full of uncertainty and newness and also to help work towards and create a world in which autistic people are welcomed, visible and can pursue the same opportunities as others. Jo told me that the trips outside were hard work and at times felt risky, but it was important to her because these young people 'are part of our world. So they need to be part of the world, *out there.*'

Young people's own participation in these longer-term preparatory activities was less evident, and it was difficult to observe how much input they had on decisions about their future generally. While there was discussion among staff members and young people about the world outside the classroom, in my time spent with the class I observed little day-to-day interaction with young people related to life beyond the present and what young people might expect or contribute to in preparation for their futures. However, the lack of explicit communication did not mean young people were not active in these preparations. Indeed, their responses and interactions within everyday learning activities also shaped and produced the outcomes. In the same way that Mol (2010) describes a patient's active role in their health care, the students were not simply receiving the educational activities but were themselves also doing and participating in them. This was seen both in the way that practices became expected parts of the day-to-day routine and also in the ways they shirked from those anticipated practices and routines to pursue their own.

5.3 Pulling together the preparations

Why am I attending to these practices of preparation when the focus of this study is on what happens outside? The class activities in the natural environment were not bracketed by the arrival and departure of the bus at the farm but also took shape in the school spaces, during the journey, and in interaction with families. Therefore, attending to the preparation practices helps unlock an understanding of what happened, what was required and what shaped these outdoor experiences. It helps answer the question, 'What are the practicalities of outdoor learning for autistic young people?' By focusing on what it took to get outside, these practices also became visible and moved to the 'forefront of our attention' (Mol 2002, p.119).

In this chapter, I have shown how practices of attentiveness, responsiveness, risk mitigation, and general preparation enacted futures (in the classroom, at the farm, and further afield) that were uncertain. The different aspects of preparation examined in this chapter demonstrate, that while many practices held steady and linked to form identifiable routines, these also evolved across time and encountered multiple disruptions. The routines and rituals of the classroom, the arrangement of the furniture and classroom set up, the experienced attentiveness of the staff, and the embodied habits of the young people were more or less certain, or as Tavory and Eliosoph (2013, p.912) state, 'more or less counted on.' Similarly, there was an observable level of knowledge and familiarity with people, places, and things, where the staff, young people, and objects were often well known to each other. However, these were still perennially open to disruption – as demonstrated by changing health needs, student responses, my own entrance into the dynamic, and the staff's attentiveness and responsiveness. The routines were counted on, yet still precarious. Furthermore, they sat alongside other uncertainties related to the outdoor experience, including the weather, new and evolving landscapes, and encounters with a tactile and dynamic material world – which are examined more in the following chapter. This acknowledgement of uncertainty is not necessarily to say that anything was possible, but that what was happening was not the only possibility.

This chapter has also demonstrated that knowledge held about the class routines, practices, participants, or place was not fixed or complete but was fragmented and often unstable. Even when much was 'known,' that knowledge was not necessarily sufficient, and this uncertainty enacted high levels of attention, particularly when leaving the classroom to enter more uncertain environments. This planning for uncertainty and 'expecting the unexpected' has also been recognised in other studies, such as that by Mannion et al (2013, p.802), which found that participating teachers planning outdoor excursions felt both contingency planning and flexibility to be important.

Additionally, this chapter has further situated preparation as both an everyday and future-oriented activity, showing how the moment-by-moment preparations were affected by and contributed to the longer trajectory of preparing for future (and uncertain) lives. The practices of preparatory planning took many shapes in getting the class ready to go outside – risk plans, individual education plans, wider transition plans, government progress plans – but these were entangled with the everyday actions and routines of young people and the material world. Such daily encounters interpreted, shaped, and enacted these plans in different ways. A student's changing health needs, poor weather, a problem with the bus, or short staffing may lead to an outdoor trip being cancelled. But the wider preparatory activities did not change – the government funding levels, graduation from this school, medical requirements as set out in an EHCP, the attendance of ABA tutors all remained.

To conclude, in what sounds like a simple, ordinary activity -- getting ready to go outdoors – there were multiple preparatory practices that enacted different versions of autism and anticipated different possibilities, different autistic futures. There was a relatively straightforward sense of getting ordinary human bodies ready to be outdoors – dressing for the weather and taking along some food. There was also preparation for a transition to the wider world, and a hope that 'real' interaction with the natural environment and positive risk-taking might aid that transition. Another aligned with government-backed progress outcomes and was progressing

towards individual development targets. Other practices prepared for maintaining appearances of stability and covering up contact with a dirty, germ-filled natural environment. Furthermore, these different preparations enacted various natural environments too – one that was dangerous or challenging or therapeutic or simply an ordinary place to be visible in the world.

In the observation of preparation, I have begun to show how different versions of autism and natural environments can sit side by side in the practices that prepared for their uncertain encounters. The preparations for being safe and staying clean outside enacted a future where the outdoor activities could carry on. The preparations for learning how to move, eat, and relate to new environments enacted a future where young people made successful transitions. The preparations for taking autistic young people to public spaces enacted a future where they could be visible and present and where they could practice being, in the words of Jo, ‘part of the world, *out there*.’

Chapter 6: Grassy fields, warm polytunnels, and precious seedlings: things that matter at the farm

6.1 Introduction to Chapter 6

This chapter focuses on the materiality of the outdoor farm experiences. It examines how the material world shaped different practices seen in this study – and was subsequently shaped in these experiences. ‘Seeing’ the materiality in this study was rarely a difficult task as it was an integral and influential part of many observed encounters – literally sometimes ‘in your face’ in forms of windy weather, plants, and mud. As also suggested in other literature (Frigerio et al 2018; Iannaccone et al 2018), an interest in and attention to objects featured strongly for the autistic young people in this study. In fact, interactions involving material things were sometimes easier to observe and describe than more human-oriented or ‘social’ ones, like sustained verbal communication or peer-peer interaction.

Explicitly attending to materiality in this analysis brings to the forefront how the things in and around the farm environment shaped and were shaped by these young people’s outdoor experiences. It interrupts a focused attention on the ‘social’ aspects of autism that often dominate its accounts (McDonagh 2013; Beck 2018). Mol (2002, p.43) contends that such an approach ‘does not simply grant objects a contested and accidental history ... but gives them a complex present too.’ Explicitly attending to materiality in this study helped me examine the complexities of autism in encounters with a natural environment in the ‘present’ – what actually happens in the practices related to autism in this outdoor learning environment?

This chapter contains four sections. Firstly, it examines the dynamic environment of the farm and how it evolves alongside the class practices. Then it explores how the materiality of the outdoor space both enables and restricts movement and interactions among people and things. The third section looks at practices involving natural objects, specifically the material world of dirt and plants. Lastly, this chapter analyses other human-designed objects implicated in these outdoor experiences, namely those that travel with young people to carry practices across spaces or form

new ones. Instead of a single vignette that illustrates these different aspects, I share a series of small vignettes in an effort to show the multitude of material objects and things that were active in this study.

6.2 Going outside across the seasons

The following two vignettes describe the dynamic outdoor environment at the farm across the seasons and the changing role of materiality there. They demonstrate how, while there was a regular weekly routine for the class at the farm, the encounters and practices within the routine were ever-changing.

Vignette 6.1

The visits to the farm usually lasted about 3-4 hours and were structured around a consistent weekly routine that went something like this: arrive on the bus, change from shoes to wellies in the bus, go on a short walk, eat lunch, do a session of farm work, change back to shoes, return to school. The walk at the beginning followed the fenced perimeter of a small, grassy field that also contained a dozen or so allotments, a couple of polytunnels, some young fruit trees, and beehives. The walk around the three edges of the field lasted between 10-15 minutes. Before embarking on the walk, staff members helped students change into wellies on the bus, a time-consuming activity. Once changed, they gathered near the large wooden gate before entering the field together.

This routine was familiar, as demonstrated once when Alex disembarked from the bus, took my arm, said ‘Walk,’ and began to move me towards the gate. ‘Yes, in a minute,’ I said. ‘When the others are ready.’



Image 8: Gate at the farm, leading to the field with allotments that the group walked around

Once starting the walk, the group gradually spread out into sets of individuals, pairs, or small groups as they walked around the field. Some students held workers' arms for support, and other navigated it independently. One of Mo's individual progress targets set by the teachers was to walk the field unaided. There was a rough track to follow but no neatly mown path, and the terrain was at the mercy of the season and mowing or strimming timetable. It was bumpy and uneven ground. Wearing wellies and walking on different types of terrain was a new experience for many young people. On this walk, I sometimes observed Alex veering off the rough trail to step on different materials on the ground – shuffling his boots in a patch of leaves or moving a piece of broken wood between his feet. On days when the grass was tall, sometimes up to our knees, the pace was slower and the steps more deliberate. We met new forms of life on each walk around the field – perhaps a chicken to stroke or a handful of raspberries to share. As the seasons moved into spring, there was new plant growth from trees and shrubs to contend with too, and we pushed away branches and leaves as we walked the path.

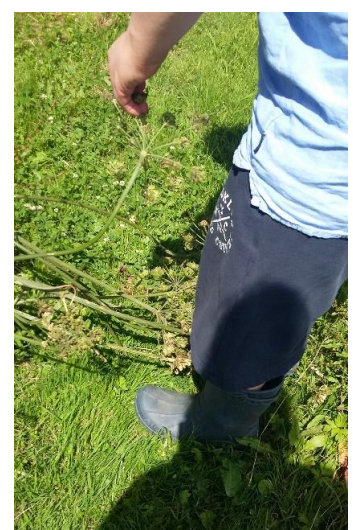


Image 9: Young people navigating the grassy field on their walk at the farm

Vignette 6.2

The farm visits often involved a lot of time spent out in the elements though this also varied with the seasons. On warm, sunny days most of a session would be spent outside. In the winter, we sought shelter in polytunnels or the barn. Practices in the

weekly routine took place in different locations across the seasons – for example, where lunch was eaten. On most days I visited the farm, we ate lunch in one of the polytunnels, which contained long wooden tables for sowing seeds or processing crops – or, at lunchtime, eating. Chairs were placed around the tables for lunch, many of which sank into the soil to varying degrees, at times to great delight or annoyance of those around the table. Across the year – and in accordance with the growing seasons – the space in the polytunnel changed. In the winter there was plenty of space for eating and walking around. By spring, the group shared the space with rows of lettuce in the ground, irrigation hoses running at head height down the length of the polytunnel, trays of seedlings, a layer of fine dust on the table, and tadpoles in a small pond. Moving about the polytunnel became more precarious, and feet occasionally met small plants. As spring turned into summer, the air grew warmer and stuffier and the smell of harvested onions often accompanied lunch. On warm days, the steamy polytunnel became too much and drove the group outside. During the final few sessions, we ate lunch outside, lounging on picnic tables in the sun. There was a notable feeling of relaxation on these days – ‘sun therapy’ as the farm manager called it. Indeed, many of the young people appeared calm on these days and I often noticed Mo sitting on the ground on his own in the sun, looking notably still and quiet. He often moved in rapid, unpredictable ways, jumping, pacing, clapping and breathing quickly but on these days, he often sat still and calm.



Image 10: The polytunnel and table where we often ate lunch



Image 11: 'Sun therapy' at the farm



Image 12: Picnic tables near the allotments where we ate lunch in warm weather

As these vignettes suggest, the visits to the farm were structured and organised around a regular weekly routine. The same practices were done, and they were also reinforced outside of the actual doing of them. They were discussed in the morning circle, depicted on laminated pictures on a visual timetable Velcro strip, and reflected on in the day's closing circle. Young people like Alex recognised and expected the routinized activity with their movements and behaviour. By the time I joined the group, the ordered set of practices at the farm had become solidified as 'what we do' at the farm. However, these routines also took place across changing seasons and in a natural environment which itself was in flux. After attending a few sessions, I recognised that seemingly stable practices differed across time in small, but noticeable ways (Hultin 2019). The changes in the environment required participants to regularly and continually adjust their practices and interactions with the natural world. Both staff members and young people had to be attentive and responsive outside too. The growth in vegetation, warmth of the polytunnel, wetness of the ground, and development and needs of crops were material aspects that continuously shaped the practices of walking around the field, eating lunch, or digging in the soil. These practices themselves also affected those things – the grass flattened as we walked and the air heated up with bodies in the polytunnel. The

routines temporally framed the experience, but the practices and encounters within them varied and shifted.

Furthermore, the material objects involved in different practices may have appeared to remain the same across sessions, though their characteristics actually changed. For example, the walk around the field involved young people, wellies, staff members, grass, a fence, and uneven ground. However, the qualities of these objects changed and no one week mimicked or matched another. The grass could be wet or tall or short or slippery or thick, each time affecting the way the walk was experienced and how the group might manage the walk. The objects in the natural environment were often spoken of in singularly defined ways – a single word ‘surfaces’ was written on the risk assessment – when, in actuality, the ground surface we walked on was not so stable. This makes it difficult to discuss sociomaterial interactions in generic, singular ways, though in practice this is what happens. And it is perhaps not practical to do otherwise. But the particularity of walking in the field or digging in the soil or being in the polytunnel could not actually be predictable or premeditated, even when it had happened many times before.

Recognising this is, as Mol (2002, p.31) suggests, a way to ‘admit that in our daily lives we are engaged in practices that are ... persistently uncertain.’ Such persistent uncertainty may seem at odds with the emphasis on routine and continuity that permeates this class experience and characterises much discussion around autistic people’s rigidity or need for routine (Batten 2005). However, uncertainty as observed here sat even *within routine*. There was a regular temporal routine of class activity that young people anticipated. But within the broad domains of activity and practices that were prepared for, laminated and undertaken, there was much anew and changing. The interactions and configurations that made up the practices shifted at fine levels of granularity and within a changing environment, and these provided opportunities for change and adjustment – the treading of new ground, the shuffling around different materials, the creating of new paths.

Additionally, some material objects or qualities might appear to be more or less the same but produced very different experiences. The warmer air in the polytunnel, which emerged in interaction with the people in the class and the situated context – was a shelter in the winter but stifling in the summer. The students, teachers, and material things – in forms like grass and polytunnel air – adjusted to and co-emerged in relation to each other, furthermore changing practices even as the routine stayed the same.

6.3 Moving around in the great outdoors

A significant aspect of the observed outdoor experience was the ‘open’ space it provided. The following three vignettes describe how the materiality of being outside shaped the movement and choices of young people – in both freeing and limiting ways.

Vignette 6.3

After I walked around the field one day with Alex and his ABA tutor, Harriet, she told Alex that lunch was in the polytunnel. He walked past her towards the barn, in the opposite direction to the polytunnel. She repeated herself and asked him to come to the polytunnel. He carried on towards the barn. She stood in front of him and said, ‘Stop,’ holding out her hand, palm outstretched. As we were in the open parking lot, he easily walked around her towards the barn. ‘OK,’ she sighed. ‘Let’s go see if they’re in there.’ When he got in the barn, he sat down on the sofa in the main room. She turned to me and said, ‘We had lunch in here last time and this is exactly where he sat.’ She turned to him, ‘Alex, they are not here. You can see that. They are in the polytunnel.’ He got up, left the barn, and walked towards the polytunnel.

Vignette 6.4:

One winter day, we were in the field digging up old, desiccated corn stalks. It had not rained for awhile and Ali was using a spade to try to dig into hard, dry soil. His support worker Tess occasionally helped him push down on the spade to loosen the soil. At one point, the spade got stuck. Ali stopped digging, then suddenly turned and

ran across the field. Tess watched him go and then said to me that she doesn't like saying 'no' to him all the time and that places like this are the only ones where he has any freedom. As she spoke, Ali carried on across the plowed field away from us. An ABA tutor, Harriet, looked up from her digging nearby and noticed Ali across the field. She called out 'Ali come back!' Tess looked up and then jogged after him. He saw her running towards him, picked up some dirt from the ground and ran the rest of the field to the fence, where he stopped and lobbed the dirt across. She caught up to him, took his hand, and walked back. A minute later, he took off running across the field again. This time he looked back, smiling. Tess ran after him and returned holding his hand again. She asked him to stay and dig, or they'd have to go back to the bus. A little while later, he picked up clumps of dirt and threw them overhead. She asked him to stop but he did not and she eventually took him back to the bus to wait for the session to end. She said to me as she walked off that it is 'infuriating' when he does this while he is smiling. But she was also smiling when she said this and conceded, 'But I am too.'

Vignette 6.5

One of the young people, Mo, was known to wander off from the group. When the class left the building, he was often arm-in-arm with staff members or wore a 'handling belt' around his middle that another person could hold. He did not wear this belt at the farm and, during my interview with the teacher, she commented that the farm was the 'only time when he is not held physically. Nobody has to link arms with him. Nobody has to hold his handling belt. He can be free and he loves it and he runs and he laughs.'

The outdoor environment at the farm was notable in its 'open' space, in that there were few doors or walls at the farm and those doors that did exist were rarely closed or were for private areas like the bathroom. This openness enabled movement across wider spaces and offered opportunities for young people to experience new terrain and to choose their own movements. In the classroom, I sometimes observed young people such as Alex wanting to leave the room but being restricted from

exiting the space, not just by someone asking them not to or even standing in their way but by the building's infrastructure and sets of doors and locks that acted as barriers to the outside world. The possibility of leaving the classroom required approval and accompaniment through the structural barriers by a literal gatekeeper.

However, when at the farm and therefore 'out-of-doors,' there were fewer material barriers and young people could more easily go to places of interest or attachment by simply moving their body across open space. Alex could walk to the barn – and around Harriet and her outstretched hand – to see for himself that lunch was no longer being served there. For him, the materiality of the vacant barn seemed to matter more than his tutor's knowledge, words, or body. His own physical knowing of the location was perhaps more important than hearing about it. The wider and unhindered physical spaces meant that there was space for his own forms of knowing to be given weight and to be accommodated. This also disrupted existing practices of school staff and ABA tutors of directing, controlling and containing young people's range of movement, subsequently requiring tutors like Harriet to listen to and allow Alex to go where he wanted in that moment.

In relation with the outdoor space, these young people also had possibly more autonomy than usual. Staff members like Tess and Amanda (in her interview) described the farm environment as one that gave more 'freedom' to young people who were often not allowed to spend time unaccompanied or outside in other places or at home. This freer movement sometimes brought with it other types of interactions like a sense of playfulness, as observed in Ali's travels across the field. Bodies were also given more space as physical closeness and touch among staff members and students in the outdoors was coupled with periods of unrestrained movement, as for young people like Mo. The practices of attentiveness and responsiveness discussed in the previous chapter were still observed in the outdoor environment but the distances at which they could take place widened, enabled by the farm's flat terrain and unrestricted views. (See Appendix I for photos of the farm's fields.) Jo, one of the high-level teaching assistants, told me, 'With it being flat and open, you can actually ... see them further.' And Jackie, a teaching assistant,

said, 'There is always vigilance wherever we go, whereas it is a little more relaxed [at the farm] because they're obviously more safe.' These increased opportunities for 'freedom,' autonomy and space for the young people aligns with the discussion in the previous chapter, where the practices in the outdoor environment were not only about the work on the farm. They were also about supporting young people to participate and interact with the world outside the school more broadly. The lives and bodies of these young people were often restricted and constrained, and this outdoor environment went some way to providing more ordinary experiences of being less restrained in the outside world.

However, these possibilities of greater movement, separation, and 'freedom' were neither wholesale nor untethered, and they were seen to be simultaneously desirable and risky. The amount of distance and space that young people moved in was contested – sometimes encouraged and other times restricted, as seen in the allowing and then curtailing of Ali running across the field in Vignette 6.4. There was a certain range that young people were allowed to walk within, and this range was dependent on the sociomaterial interactions and qualities of the people and things involved. The range of freedom was, for example, affected by the other people in the environment, who were more flexible and conciliatory than locked doors in the school were. The limits were there to be played with, at times loosened and at other times held firm, even begrudgingly, as in the example of Harriet's interactions with Alex and Tess's with Ali. The appreciation for this ordinary experience of freedom tussled with existing practices of risk-laden care.

Movement across 'open' space was also limited in material ways. The material infrastructure of the farm contained fixed elements – a barn, polytunnels, and demarcated fields for growing that were enclosed by fences and gates – and these also both facilitated and limited movement within the environment. The gate restricted the entrance to the field and fences stopped Ali from running out of sight (though he is an agential participant here too as he could have easily climbed the fence but did not). As Jo once said to me, 'Once that gate is shut, unless they find a hole in the hedge, there's nowhere they can go.' There was some land that was open

and free for roaming, but this too evolved across the seasons and influenced possible interactions with the environment. Much of the land was used for farm purposes and it changed across the growing season. Ali could run across the field in Vignette 6.4 because it was winter and no crops were growing there. At the height of the growing season, the human and the non-human crops competed for space, and the value of the crops took precedence over these young people's 'free' movement. (See Appendix I for photos of the changing field across the seasons.) This 'open' and 'natural' place was also a highly managed agricultural one that itself enacted other practices of containment of unruly bodies that could damage the farm's valuable crops, examined more in the next section.

6.4 Living things: touching plants and getting dirty

The non-human, living world full of things like plants and soil played significant roles in these experiences at the farm. Through the vignettes in this section, I demonstrate how living things and materials were not inert objects or passive 'backdrops' to human action. Additionally, I show ways in which these young people demonstrated interest in and connections to the material world and how relations they had with the things in the natural environment of the farm were encouraged, sustained, or stopped, enacting different versions of both autism and the living things themselves.

Vignette 6.5:

Ali had a regular habit of picking up and moving things, be that flecks of paper from the classroom floor, wood chips from the ground, or fluff and feathers from people's clothes. He often transported objects that he picked up to different places, putting them in the bin, on a windowsill, over a fence, in someone else's hand, or blown into the air. He was often asked to stop doing this in class or at the farm, especially when picking things off the ground. This containment of his activity was regular but also inconsistent. Sometimes the behaviour was ignored and other times it was encouraged, as when Tess helped Ali pick buttercups and then hold them under other

people's chins to see if the yellow reflected on their chins, indicating they 'liked butter' – a common practice in this country.

One early summer day, Ali and I were loading piles of cut grass from the orchard into a wheelbarrow and then to the compost heap. On our first wheelbarrow trip, Ali put the wheelbarrow down a few times in order to pick things off the ground and toss them to the side of the path. The things he picked up seemed to stand out in the environment, like a single dandelion flower standing tall in the grass or a

lone stick on the ground. As he collected items, I talked to him about what he picked up, naming the flowers and things he grabbed. The first few times I did this, he continued to toss each one to the side, into the gully. After I commented on a few objects, he began to hand them to me. "Where should I put this, Ali?" I asked. "Where put," he repeated. I asked if it should go to the side with the others and he repeated what I said, then said nothing. I threw it to the side. The same thing happened on our second trip to the compost heap. I told him he didn't need to hand them to me and he could do with them what he wanted. He threw some to the side. Near the gate, he picked up a large rock and threw it over the fence, near where others were sitting. I asked him not to throw the rocks, as they are harder and heavier than the flowers and grass. He didn't respond, and we carried on loading the wheelbarrow again.



Image 13: Ali taking a load of grass clippings to the compost heap behind the polytunnel

Vignette 6.6

During another trip to the farm, I was walking with Ali near the chicken coop fence and he reached out to grab some grass on the outside of the fence. There were nettles in the grass, and I pointed to them, telling him to watch out for them. He pulled up a handful of grass and threw it over the fence into the chicken coop. I keep chickens too and often give them leftover grass clippings. I was in the middle of telling him the chickens would probably like this when a teacher and an ABA tutor both called out to him – ‘Ali, no throwing!’ and ‘Ali, leave it.’ He dropped the grass and moved on.

These vignettes are two of many where Ali initiated interactions and his own practices with the materiality of the outdoors and the ‘natural’ things in the world. As is common for many autistic people (Fletcher-Watson and Happé 2019), Ali has repetitive behaviours that cross temporal and spatial boundaries. Such behaviours may have different causes and have been seen to be possible responses to sensory stimulation or forms of ‘stimming’ or a calming mechanism in times of anxiety (Fletcher-Wilson and Happé 2019; Nolan and McBride 2015). The motivation of his behaviour is not the focal point here, however. Rather what I am interested in is how Ali’s behaviour and interest in things actually happened – how it was done – in the outdoors and what sorts of enactments of autism emerged in these moments.

Reducing some of Ali’s repetitive behaviours was a particular point of attention for the ABA tutors, who often interrupted and curtailed these behaviours. This ‘training away’ of unwanted behaviour commonly happens with autistic children and young people in an effort to ‘normalise’ their social interactions, as also discussed in Chapter 2 and in other literature (Rodogno et al 2016; Shyman 2016). In this study, I observed Ali’s practice of picking things off the ground or surfaces every place we went. The intervening of this behaviour happened regularly but inconsistently and was perhaps diluted in the natural environment by the introduction of more people and wider spaces. Ali was generally in the presence of an ABA tutor in the classroom but also worked alongside others (farm volunteers, ‘bank staff,’ or me) who

responded to him and his habits differently when outside. The open space also meant he could run across the field and pick up grass, wood chips, dirt, or potatoes in a compost heap in ways that often went unnoticed, could not be controlled or were just ignored.

However, Ali's interaction with the material world was still at times restricted and opportunities to touch plants, fruit, vegetables, and tools were often controlled or managed by adults. The natural world of the farm offered a variety of sensations and affordances, but the qualities of the natural material things did not necessarily drive the management of Ali's interactions with the natural world. To put it another way, directives given to him to stop touching plants, wood chips, dirt, or rocks often did not seem to depend on or respond to what it was he touched and rarely came with an explanation why. He could be warned not to pick up a wood chip, a rock, or a handful of grass with the same instruction. Such restrictions were possibly in an effort to support consistency and routine in practices of learning – or un-learning -- behaviours. Perhaps it was seen to be 'safer' to just contain interaction with all foreign objects. However, the attempt to practice such routinised behaviour jarred with the co-existing aim to provide new experiences to learn about and within a natural environment and do work on the farm. For example, throwing grass into the chicken coop was on the one hand a meaningful way to learn about relating to and caring for other living things in the world and I engaged as I did in this encounter because I had prior experience and knowledge. But it was also practiced as an unwanted behaviour, regardless of where it happened. The outdoor environment was enacted both as a living place for emergent new relations with the world and also a new backdrop for consistent and de-contextualised behaviour-focused practices – a separate container, perhaps, in which the same practices of individual learning occurred. In some observed interactions, neither *learning about* nor *learning in* the environment seemed to be the focus – it was instead here about Ali learning as a separate and discrete individual.

Relatedly, I observed little explanation of the different qualities or values of plants or natural objects to these students. This was perhaps noticeable to me because I often

did talk about them – types of plants or birds, what the farm looked like, the changing weather and qualities of soil or air. I tended to do this because I could share these aspects of the experience with young people, it did not demonstrate authority, and it also drew from my own previous knowledge about being in similar environments. Furthermore, it was influenced by my methodology. Being more interested in the sociomaterial interactions allowed me to relate to Ali through those interactions rather than by focusing on him only as a discrete individual. My intention was to observe the relation with things, to see what the relations brought about and I did this by naming it, pointing to it, touching it myself – enacting it too. This made me further consider what might happen if I followed these autistic young people's actions and attentions, and tried to share their attention? This way of seeing and interacting conflicted with other framings of learning and autism, such as that of ABA – that autism manifested in certain behaviours that could be attended to and even trained away at an individual level and without regard or response to the environment it happened in.

'You should be watching them more': Interactions with precious plants

Another important cast of characters at the farm were plants in their various life stages – as seeds, seedlings, full-grown crops for harvesting, and desiccated leftover stems in the autumn fields. The plant-based practices are examined in the following three vignettes, showing how the value and economy associated with certain plants also enacted autism on the farm.

Vignette 6.8

It was a sunny afternoon at the farm and Tilly and Kelly, her ABA tutor that day, were clearing piles of grass from the chicken coop. Kelly said that Tilly had touched some nettles and I could see a few bumps on her arm. She was rubbing her arm but said nothing and looked at the ground. Later, she was sitting with Kelly at a picnic bench in the sun. In front of them was a tray of large, dirty garlic bulbs with stems that had recently been pulled from the ground. Their job was to strip the outside layers of the

garlic to prepare them for sale. Tilly picked up a garlic stem and promptly bit into the bulb, chewed for a minute, then spit out the bite she had chewed. Soil got in between her teeth, and Kelly later gave Tilly an apple to eat to clean the dirt out of her teeth, commenting to me that her mum would not like her to come home with evidence of being near dirt – and certainly not eating it.

Vignette 6.9

During a summer session, the polytunnels were crowded with trays of seedlings and plants. The farm manager asked me to help move trays of potted small seedlings from the main table to the back, explaining



Image 14: Seedlings at the farm

that if someone from the group spilled them or damaged them, ‘then I’m fucked,’ she mouthed. How the seedlings fared was intricately tied into her livelihood at the farm.

Vignette 6.10:

Bad weather cancelled a trip to the farm one week, so I accompanied the class to a large local garden centre instead. They were going there to buy some primroses to plant for Mother’s Day gifts. Within a minute of entering the store, one young person knocked over a potted plant on a display stand, and the plant and ceramic pot fell to the ground. Nothing was damaged but some soil spilled on the floor. Two female customers nearby looked at the group and said to the adults present that we should ‘be more careful.’ One tutor, Kelly, replied, ‘They have special needs, you know.’ ‘Well you should be watching



Image 15: Spilled soil on the garden centre floor

them more than,' said one of the women. 'It was an accident. Accidents happen,' said Emma, another staff member, sharply. We walked away and the women watched us go, looks of disapproval on their faces. The staff were clearly shaken by this experience but reported it was not the first time they had poor receptions from people in public places.

These three vignettes demonstrate the complex sets of relations between humans and plants in these environments and in particular how young people's interactions with plants were managed. At times, young people were encouraged to participate in practices involving plants and at other times they were excluded from them. Their involvement depended on the qualities of the plants, in terms of the risks posed, the possible benefit of the encounter and also the potential value they held. Some plants associated with harm like stinging nettles were to be avoided. Others with economic value were protected on garden centre displays or at the outskirts of polytunnels from rough handling and wayward bodies. Plants compounded or created risk and obstacles, but they also supported positive risk-taking as in Mo's target of walking unsupported around the clumpy, grassy field. What is important here is that plants were not passive things that were manipulated and acted upon but they themselves shaped and instigated certain practices and interactions. And the same plant could enact – and be enacted – differently in different practices. For example, what to me was a helpful gesture from Ali to feed grass to the chickens was to others another case of unwanted behaviour of touching and throwing objects. The grass-in-relation enacted different practices, which themselves demonstrated what was expected of and accepted from this young person.

Another important distinction related to the value of plants – particularly the economic value seen in farm crops or potted plants at the garden centre. While parents had consented to young people visiting the farm, concerns remained about young people getting dirty and interacting with natural things. The flowers at the garden centre were, however, desirable and purchased to provide as gifts for Mother's Day. These plants were certainly not construed as dangerous, but perfectly acceptable interactions with nature and valuable enough to buy and offer as a

cherished gift. Plants had economic value that shaped the practices involving them. For example, the commodification of nature made interaction with valuable plants both acceptable on one hand (to give as Mother's Day presents) but also more carefully managed, even restricted on another – as in the tumbling plant from the 'display' at the garden centre.

At the farm, healthy seedlings represented the future viability and livelihood of the farm and, as such, were a precious commodity. Fresh, young plants had uncertain futures, and these were not to be shared with young people or, by proxy, school staff. I was allowed to touch them under the farm manager's watchful eye and by invitation only. Young people were not. The practices they were invited to join more likely involved removing unwanted and worthless weeds and old stalks from the ground, cleaning more robust garlic bulbs or planting sunflower seeds. They were not invited to handle new plants or be entrusted with the care required for such fragile, valuable things. Separating these young people from plants was not just about protecting the young people from harm, but it was also then about protecting valuable aspects of the natural environment and the viable futures the plants represented. At both the farm and garden centre, these autistic bodies were seen to be unruly and perhaps less trustworthy. At the very least, they should be 'watched' while in the presence of these precious plants. Such practices are interesting to set next to other depictions of agri-based places like 'care farms' and notions of 'ecotherapy' where human-nature interactions are seen to be mutually beneficial where people and the natural environment care for each other (Sempik and Bragg 2016). Some farm-related encounters between these young people and 'nature' could be characterised that way, but certainly not all.

Getting dirty and muddy

Examining interactions with soil, dirt, and mud is also worthwhile, and the two vignettes below demonstrate the active role that soil played in these experiences and what practices came to be in relation to it.

Vignette 6.11

The farm work tasks varied across the year – from digging up stalks in winter to planting seeds in spring to cleaning garlic in the summer. One early spring day, Ali, Alex, two staff members, and I were to dig out dock plants from a growing patch. The farm manager demonstrated how to use a garden fork to dig up a dock plant and instructed us to shake off the excess dirt from the roots, as it was important to her that the rich soil stay on the field. Once she left, it became clear that none of the other staff members or students actually knew which plants were the right ones to dig up. I was more familiar with them, so I pointed some out. I handed the fork to Ali and told him to choose a plant to dig up, showing him what to look for. He put the fork in the ground and dug one up.

Alex was also working in this field and began to kick clumps of dried soil around. He picked one up and threw it in the direction of Ali and me. Alex's support worker Harriet asked him to stop, but another soon flew in our direction and hit Ali partly in his hair, which I helped brush out. Alex then threw another, which Ali quickly sidestepped before it arrived. I hadn't seen it coming, but Ali clearly had and reacted more quickly than I did. Alex and Harriet went back to the bus, and we carried on working.



Image 16: A young person and staff member walking back to the van after the rainstorm

Vignette 6.12

One day while pulling up old sunflower stalks from an allotment patch, the skies grew dark and the wind picked up. Sensing rain, the staff members grabbed waterproof gear from the van and helped young people quickly put on coats and trousers. The rain came quickly and heavily, and all heads drooped and shoulders curled as staff

and students alike tried to protect themselves from the rain. The group tried to keep working but the ground soon became too muddy and sodden to continue.

As suggested in these vignettes and others throughout the chapter, soil was not a stable entity and its various permutations of compacted dirt and wet mud led to different practices. When the soil was dry and hard, working with it could be awkward and unmanageable, making digging up parsnips or corn stalks difficult, the work slow and sometimes abandoned (as in Vignette 6.4). When the soil was wet, the mud created a need for protection in the form of welly boots, rain gear, and hats, and putting these on meant manipulating bodies and behaviour in cumbersome ways. Mud on young people's hands, faces, and clothes could also be cause for concern from others, as previously suggested. In these instances, the natural aspects of the outdoors were to be wrestled with and could be unforgiving, as the mud was seen as an irritant and something to be avoided or separated from. But the soil was also extremely valuable in its aliveness and fertility, as demonstrated in the instruction from the farm manager to keep the rich soil on the ground for the next year's crops. This practice resonates with Bellacasa's (2019) recent writings on the importance of 're-animating' the soil to recognise its value and aliveness. The soil – and its manifestations as dirt and mud – is possibly one of the most potent and tangible representations of nature, in its very essence 'earthy.' But in just one location it was multiple things – a source of fertility for future crops and sustenance, a home for unwanted weeds, 'dirty,' an unyielding task, even a projectile.

The risk of bodies getting 'too close' to this aspect of the natural world triggered protective measures and disrupted routines. Rain and wind cancelled trips to the farm and muddy soil curtailed work sessions, suggesting that the human bodies were not supposed to interact with certain versions of nature in certain ways. To work on the farm, it was inevitable that young people would touch soil and mud and the protective gear went some way to mitigating the associated risks. However, these protections were often breached and those on the farm were also seen with dirt on their hands, clothes, and faces or in their teeth or hair. Sometimes these interactions

left young people unphased, but others were distressing. Some young people also worried about their parents' reactions, as Annabelle once said, 'Mum will be upset if I get dirty,' while she pulled on her wellies on the bus.

Despite the possible risks, touching dirt happened and was sometimes also encouraged as tactile ways for the young people to experience the natural environment and a necessary aspect of farm work experience – what they had come to do. Some staff members seemed to suggest it was important to challenge existing expectations and offer new encounters for young people in a natural environment with opportunities for them to grow and develop – albeit in ways that could also be covered up. Tilly's support worker told me that Tilly would never get an outdoor experience like this at home, as her mother tries to keep her immaculate and literally carries around cotton wool to clean her if she gets dirty. Here, different versions of autism were held together with certain practices and certain objects. The muddying and growing practices that supported young people to try out new ways of interacting and emerging with the tangible, physical world of work, dirt, and mud that were then cleaned up and erased up at the end of the day so as not to interrupt other versions of these autistic young people elsewhere.

6.5 Transported objects

This final section and pair of vignettes take a closer look at objects that are not solely present in the outdoor environment but that were transported there for different reasons – sometimes to facilitate the outdoor learning activity or at other times to maintain practices across places. These transported, human-designed objects enabled the outdoor learning experiences but were also burdensome and could be viewed as ways in which difference and disability are materialized (Peers and Eales 2017).

Vignette 6.13

Many objects accompanied students and staff from the classroom to the farm. Some individual young people took items to support communication or to make themselves

more comfortable, like iPads, visual timetables, PECS cards, and ear defenders. Teachers also packed many bags: there was one full of wipes, gloves, pads, and other hygiene products; 'Bruce,' the medical bag; bags with waterproof clothing; and others with items needed for eating like plastic tableware, students' food and water bottles. There was also a folder of paperwork, including risk assessments and information about students.

In addition to the belongings transported by the school, ABA tutors also carried objects related to their work with young people and different learning targets. These included communication aids like laminated cards, visual timetables, and behaviour charts to help manage and track individual young people's behaviour against certain goals. Young people would receive a laminated picture of a star or a penny with Velcro on it for meeting a target, and then get a reward once they collected enough stars or pennies. The rewards were most often spending time with special objects, such as a phone for playing music, stuffed toys or sensory items, which also accompanied the class on the farm.



Image 17: Ali's visual timetable and 'penny' reward chart

One day, I noticed that Harriet, an ABA tutor, had two small clicker-counters attached to her belt. She said they helped her keep track of how often Alex met his target behaviour. That day, his target was to respond verbally to a question within 10 seconds of being asked. If he responded according to the target, she would click one of the counters. If he didn't, she clicked the other. She said that all of Alex's tutors

were using this system of counting progress and they would all share the data and assess progress when they next met.

Vignette 6.14

Both Tilly and Ali had certain sensory objects they liked to handle, touch, pick at, or hold on to during the day – things like silver scrubber pads, rubber bands, a squishy ball, a stuffed animal. They were not carried around all the time but were brought out for short periods of time or sometimes used as ABA rewards for meeting some behaviour target. One day after lunch, I sat next to Ali at a table in the polytunnel. He had his silver scrubber in front of him. He picked up a piece of wood flaking off the table and separated the piece into tiny, thin slivers of wood. He blew each one in the air. He then picked up his scrubber, pulled out a strand and took it to his mouth. I said, ‘Not for eating, Ali’ but he only bit it apart with his teeth to make two small strands, then blew those into the air too.

These vignettes show how various human-designed objects enabled and shaped the practices in and around the farm. Some were required by multiple members of the group and enabled going outside in the first place. Plastic kitchenware and portable food, a large bus, and mobile phones were some of the things that accompanied the group and, in a very real sense, made the outdoor sessions possible. Other objects were necessary, tangible, mitigating responses to the potential risks identified in going outside, as in protective clothing. Other transported objects were more aligned to the requirements of the actual students in the class. These were attached to individuals and could be described as extensions of the young people themselves. These include portable hygiene and medical products, food, and wheelchairs. Some of these supported everyday experiences that young people had anywhere, like eating, keeping clean, attending to medical needs, and being mobile. While these on the one hand enabled the experience, they were also reported by staff members to be burdensome – there was a lot to pack up and bring along.

Still other objects specifically related to practices of learning, and in particular ABA practices – these included laminated behaviour charts, clicker-counters, and uses of sensory objects as rewards. The importance of these objects is valuable to consider in more depth. These objects were not required in order to interact with the natural environment or any specific environment for that matter. They were not tools or proxies for learning about farm work or the world around them but were instead physical manifestations of practices around individual behaviour changes regardless of context. They travelled with young people to provide continuity across environments and were part of any activity in classrooms, in cars, and outside. They were mechanisms to support more functional and social behaviour at an individual level. They were also extensions of the autistic body, material reminders of the ways that young people’s behaviour was seen to be different, regardless of where they were or what sensory, social, or material encounters were also happening. They ‘carried’ the ABA practices that aimed to change this behaviour, which was not recognised to be affected by an agential material world. In these practices, autism was enacted as something that could be managed through the same practices using the same objects, wherever they may be.

The objects involved in these practices were managed by ABA tutors, who were responsible for monitoring and rewarding on-target behaviour. The ownership of the objects rested more with the tutors than with Alex or Ali, for example, as tutors controlled rewards or use of the charts. What was notable about the use of the charts was the way these targets materialised in quantified and decontextualized ways. For example, Alex gained stars when he quickly gave a verbal response to a question, and one of Ali’s goals was to control the loud noises he made. Such changes in behaviour – ‘learning’ in this situation – were quantifiably counted through use of a clicker-counter and laminated stars on a chart. The qualities of the things that interacted to enact these changes in behaviour, however, did not count.

There was also an interesting tension around the behaviour targets – often related to ‘functional’ and ‘social’ skills like verbal communication – and the use of physical charts and tangible, sensory-based rewards. The juxtaposition between the often

socially oriented goals mediated through physical objects was striking. The objects were recognised as valuable to young people, and this meant the objects themselves became rewards and motivators for certain behaviour and learning goals. Sensory and material interactions were understood to be effective motivations for young people but in ways unrelated to learning target itself. These autistic young people were understood to have interest in the material and sensory-based world, but this interest was not a valued aspect to the learning encounter itself – it was simply a means to an end.

Use of the sensory objects was also managed by support staff and the objects may also have been viewed as safe ways to keep young people and their hands occupied – a barrier perhaps to interacting with other, natural, ‘dirtier’ things. However, as in Vignette 6.14, Ali’s interaction between the human-made objects and natural ones suggested that they could also be interchangeable, in that he found a natural object to manipulate in a similar way to the scrubber pad. What happens, one wonders, to the value of the reward object when a natural environment can also provide its own? It may be in a natural environment like the farm that young people’s own interests and motivations could be used to align with learning in and about a certain place – where learning becomes re-situated and the active role of places acknowledged.

In this section, I have demonstrated how human-designed objects were manipulated and used in order to support and instigate practices at the farm. Some of the transported objects structured and enabled the outdoor experience and were required in order for this group to simply go outdoors. They could simultaneously be burdensome and materialisations of difference. Other objects extended and maintained practices of learning certain skills across different environments, with the intention of providing consistency. It is notable that few objects transported from the classroom to the outdoors specifically related to learning *about* the natural environment. The importance of these transported objects suggested the group could not exist solely in the materiality of the natural world; they could be in it only

by virtue of the mediating objects they brought with them and through their links to practices beyond the 'natural' place.

6.6 Examining materiality in and around the farm

This chapter has examined the multiple ways that the material world – both that which is living and non-living, 'natural' and artificial – contributed to practices in this study and why paying attention to them might be useful when considering what happens when autistic people have educational experiences in a natural environment. I examined four aspects of these interactions in depth. The *changing materiality* across the seasons provided evolving – though still routinized – opportunities for the students to interact with the natural world. The *open space* of the natural environment enabled young people to choose or negotiate how and where they moved in different ways. The *non-human, living world* of plants and soil played a role in what practices were allowed, encouraged, and restricted. Lastly, there were many objects that accompanied the class into the outdoor sessions, and these *human-made, designed objects* played both an enabling and burdensome role in mediating young people's interactions with the natural world. I conclude this chapter by summing up what this consideration of materiality in these outdoor experiences showed about autistic young people in this particular natural environment.

How things are active, multiple, evolving, and uncertain

As discussed in Chapter 2, the material world is often characterised as a passive backdrop to human action (Pearson and Craig 2014). Others, however, have argued that the human-nature relationship is one of mutual entanglement and ecological connectedness (DEFRA 2011; Ingold 2010). This entanglement of human-nature relations is the focal point of this chapter, and I argue that the natural things in these vignettes – such as seedlings, grass, soil, or a sliver of wood – became themselves in relation and through practices with other things and humans. The polytunnel air became warmer with the presence of people; the ground got muddier as boots trod

across it. The same could be argued for inanimate objects. Take, for example, the story of the wellington boots. To the chagrin of many people involved, welly boots played a starring role in the farm visits. They were used as a barrier that stopped interaction with the natural environment, a separation that at the same time enabled the young people's actual participation in the outdoor experience. Wellies kept students warm and dry from the natural elements, as well as protected from their parents' concerns. The wellies themselves enacted new activity, such as the protracted transition from the bus to the start of the farm activity, caring relations between young people and staff who knelt to help change young people's shoes, and the setting of unique challenges in young people walking the field wearing 'ordinary' footwear. They became points of contention and protest when young people did not want to wear them and unceremoniously chucked them out of the back of the bus.

This chapter has also shown that objects were enacted in different ways and through different practices. Objects were not just discrete 'things' that get moved from place to place, but they were rather objects-in-relation whose qualities and properties shifted in time, across places, and in interaction. The more granular changes in encounters with objects became apparent and important in understanding how practices emerged, held together, and fell apart. Paying attention to them facilitated an understanding of an object's role in holding together – or breaking apart – practices of autism. Outside there was a temporal routine though the natural world changed and evolved and the interactions and encounters with it likewise did. The practices might stay the same but the elements and configurations that comprised them changed. The routine at the farm was the same each week but the field was never the same; lunch happened at the same time but in evolving ways and in different locations; the ease of digging depended on the day. This evolving materiality required adaptation from the other social and material actors in a way that both met routinized expectations and the goal of adapting to new environments and experiences. The material world in this way offered opportunities for new experience within enduring routines, which may have been particularly suitable for these autistic young people.

Recognising that such encounters may perennially change and evolve evoke doubt and uncomfortable feelings – what things can we rely on or know for ‘certain’? This is resonant of Mol (2002, p.163), who suggests that objects are often projected as ‘one’ even when they ‘may be approached in various ways,’ a projection that can serve to keep practices unexamined and remove doubt or uncertainty. However, by keeping the ‘practicalities of living’ open to assessment and scrutiny – by ‘unbracketing’ the practices of walking outside, learning about plants, working the land and even being autistic – we ‘remain in doubt’ but also keep open ‘the possibility that things might be done differently’ (ibid, p.164). Recognising that ‘things’ are multiple and that they can form different relations and practices in different places helps to open up space for reimagining new possibilities and relations.

Paying attention to the material world in relation to autism

Two of the young participants, Tilly and Ali, showed a particular interest in and attachment to things and material objects. In many instances, they chose to interact with the materiality of the natural world, showing attention to objects in ways that others did not. This is similar to experiences described in studies by Reddington and Price (2018) and Frigerio et al (2018), who suggested that autistic children had strong interests in materiality and certain objects in particular. While often characterised as ‘obsession’ or ‘repetitive behaviour,’ Frigerio et al (2018, p.396) suggest that these keen interests could also be seen to resemble a ‘surplus’ of attention or connection, rather than the ‘deficit’ characterisation common to conversations about autism. They go on to suggest that autism is perhaps ‘simultaneously in excess and deficit.’

In this study, this attentiveness to the material world itself enacted other practices. At times it led to interventions that contained encounters with the natural world, as in the curtailing of Ali picking things up from the ground. At other times, it became a useful motivator, supporting learning with material incentives to change and ‘normalise’ behaviour. These practices either attached very little meaning to the

objects that young people were interested in (the wood chips, feather or dirty garlic) or used the meaningfulness to motivate the young people to 'learn' and change other behaviours. Within the same practice of changing behaviour, some objects of attention (i.e., the wood chips) seemed to matter very little where others (the sensory object given as reward) mattered a lot but in ways that were tangential to the actual activity. Very rarely did the actual matter being used seem to matter. The meaning and mattering was furthermore rarely led or determined by the young people themselves. I wondered what would happen if it were.

What things make possible in the outside world

As demonstrated throughout this chapter, material things generated interactions with and between people. Put simply, things brought people together. I observed several encounters between humans and material things that created a shared experience. Some of the materially-mediated experiences were experienced by all, like the heat in a stuffy polytunnel or the wetness of a torrential downpour. Other interactions were instigated by people but brought the group together around an object -- like objects that were offered and encouraged to explore, touch, pet, listen to, or use for digging. Reflecting on my own interactions with young people, I often instigated them verbally though sometimes through an object. However, the majority of the interactions that young people instigated with me were through an object or a material connection. Ali plucked a feather from my coat or cleared a clump of grass from my shoe. Alex threw mud in my direction and Tilly once pushed a glass from the table onto my lap.

I sometimes attempted to read socially oriented meaning and human-human connection in these encounters that I recognise may not have existed for the young person. But what did exist was a shared moment via some-thing. These were not necessarily interactions that young people made with *me*, as the observable interactions were between Ali and the feather or the wet clump of grass. While I might have held these interactions as a social encounter through that thing, for the young people it may instead have been an encounter primarily with the material

world or with the world emerging through it (Manning, in Evans, 2018). But perhaps this is where some commonality could be found – in the shared experience of the thing – without making assumptions about the resulting social connection. These objects themselves held the interaction – as seen in shared laughter from chairs that sink into the mud, the shared struggle against dry soil, the shared heat of the sun, or the wetness of the pounding rain. Must the sharing of experience happen at a social or cognitive level or could it be recognised as a temporal, spatial, even material phenomenon? Rather than seeing things as useful in improving social relations, perhaps such materially-minded interactions could enact a ‘shared’ experience. What a focus on material things themselves might provide is a recognition that different, alternative connections are already happening.

The material things in this study mattered, and they were central to what happened in and around the farm. They enabled the experience to happen, shaped practices in the outdoor learning environment of the farm, anchored the anticipated temporal routines and also allowed for possibilities of movement and shifting of practices in new and often unexpected ways. These also included new sensory and physical experiences for young people, including greater distance and separation from support staff and the opportunity to have more say over their movement in the outdoor space. The farm itself was a highly managed natural place with a particular purpose that shaped the practices, both enabling new experiences and constraining movement. For example, interactions with valuable things on the farm were contained and limited, but these restrictions sat in tension with broader assumptions around the value of being in and interacting with ‘nature’ for these young people. The farm was an environment enacted as one that was both threatened by unruly interactions with autistic young people and also one that supported autistic young people’s own emergent development. This discussion begins to show how different versions of ‘autism’ and the ‘natural environment’ emerge in relation to each other. The visits to the natural environment of the farm were shaped by many material and social aspects – and understanding what happens in these encounters is more complex than asking what benefits a ‘natural environment’ can offer those with ‘autism.’

Chapter 7: Bodies in relation to the farm

7.1 Introduction to Chapter 7

This chapter is focused on human bodies and what role bodies played in the practices I observed in and around the visits to the farm. Throughout the field work sessions in this study, the importance of the body became apparent – firstly in how many bodies there were, as some sessions had to be cancelled because the student-staff ratio was insufficient for the students travelling. Bodies themselves also played a role in sensing, communicating, moving, and interacting in the world and in the related practices that developed – such as eating, walking, farm working, maintaining hygiene, transporting, sensing, and touching.

In Western societies, there has long been a separation between the mind and body, and the human mind has often been represented as the site of truth and knowledge that has ‘struggled to free itself from the “shackles” of the human body’ (Williams and Bendelow 1998, p.2). Relatedly, sociology has often neglected the body as a focus of study or understanding. This has recently begun to shift, as more sociological studies bring the body back in focus and there is a ‘resurgence of interest’ in the body and the role of biology in sociological understanding (ibid). This return to attention around the body plays out across many social science fields and approaches (Hindmarsh and Pilnick 2007; Mol 2002; Manning 2007; Fannin et al 2014). Mol (2002, p.27) posits that it is important to pursue ‘ways of ethnographically talking bodies’ because

the humane does not reside exclusively in psychosocial matters. However important feelings and interpretations may be, they are not alone in making up what life is about. Day-to-day reality, the life we live, is also a fleshy affair. A matter for chairs and tables, food and air, machines and blood. Of bodies.

Attention to the body is also found in sociological debates around disability. Some scholars argue that the social model of disability can take a ‘disembodied approach’

and suggest that taking a more sociomaterial approach acknowledges bodily changes or impairments that affect experience, which then allows for recognition that the relationships between these bodies and the environment 'are not as neat and unambiguous as the social model suggests' (Freund 2001, p. 690). Re-focusing on the body and materiality of experience reflects the messy and unpredictable relations all humans – not just those with impairments – have with their environments.⁵⁶

Considering bodies also had particular relevance in this study. Ochs (2015, p.276), who has conducted video ethnography of autistic children's social interactions from a phenomenological point of view, argues that attention to the body is pertinent when studying autism because when 'verbal representation of what children with ASD are thinking and feeling is ... limited, the body becomes especially relevant.' She concludes by saying that ethnography (in her case, video recordings) of autistic children 'provide a torrent of information about what the body can say' (ibid, p.284).

Paying explicit attention to bodies, however, runs the risk of objectifying these bodies in ways that separate, isolate, or create boundaries, countering the intention of a sociomaterial approach. Hindmarsh and Pilnick (2007, p.1397) note that the 'embodied turn' in the social sciences 'has tended to produce sociologies *about* the body' that often still separate and objectify it. In line with the theoretical framing of this study, I attempted to examine bodies-in-relation or bodies-in-practice and what follows are my observations of ways the body interacted and related to other people and material things and emerge in these encounters. I attempted to ask what role bodies played in the enactment and shaping of everyday practices at the farm. With this focus in mind, this chapter contains three areas that particularly drew my attention: first, important relations between food and the body; second, communicating through the body; and third, sensory perception and the body.

⁵⁶ While the social model does see disability as the relation between the body and the sociomaterial environment, it can tend to focus more on the political economy rather than the day-to-day experiences and spaces (Freund 2001).

7.2 Food and the body: nourishment, sensory stimulus, and motivation

Food was a fundamental aspect of everyday activity in this study, as it is to any human experience. Practices related to food demonstrated certain productions of autism and autistic bodies. Food was most obviously for eating but was also central in relations beyond this physical or chemical interaction. It also contributed to sensory experiences and was used as motivation for changing behaviour or communicating. The range of body-food relations and how they enacted autism are discussed below in the following section.

Eating and sharing food

Vignette 7.1

Snack and meal times were parts of the class' daily routine, perhaps as much in response to bodily hunger as to expectation and habit. In school, students ate snacks in the classroom and lunch in the cafeteria. But on the way to the farm, the van stopped halfway through the journey at a lay-by on a busy A road, where young people ate snack in their seats and staff bought teas and coffees from the food van parked nearby, drinking them while perched around the van's open door.

At the farm, the group ate lunch together. Individual young people often ate different food from each other. Some had special diets so brought lunches from home and others chose a sandwich or pasta that had been brought from the school kitchen. Some young people were directly supported during lunch or watched so they didn't eat too quickly or take others' food. There were also occasions when young people tried new foods. One day Tilly tried a sandwich at school for the first time instead of the pasta or rice she usually brought from home. Such changes were remarked upon as small, but highly significant.



Image 18: One of the young people's lunches at the farm

Eating practices were at the heart of everyday temporal routines. Set times for eating were important markers in the laminated visual and real timetables and were anticipated parts of young people's days. These were rarely tampered with and seemed to form the fulcrum around which other activities were organised. When at the farm, the place where food was consumed shifted, even for those like Alex who preferred routines (as shown in Chapter 6, Vignette 6.3). Ultimately, keeping to the same temporal routine was more important than the location and food-related routines could move across places – from classroom to van to field to polytunnel.

Food-related practices also brought bodies together. Throughout the study, eating lunch at the farm was one of the only visible times of whole group togetherness and the only time outside the welcome and closing circle when the group sat down together in an activity where their bodies were physically in the same place and they were engaged in the same activity. During mealtimes at school, students ate together in the cafeteria, and classroom staff ate lunch elsewhere. Eating together outside the classroom facilitated staff-student relations. There were regular conversations and discussions between staff and with young people around the

table – often related to the day’s activity, weather, or food. It should be noted that eating together at the farm also meant staff had to forego the usual break from students, which was sometimes discussed as making for a longer, more tiring day. However, the common embodied experience of shared mealtimes in a sense ‘flattened’ relationships -- everyone’s body needed nourishing and they all did it together at the same place in the same place.

Social interaction at mealtimes was often initiated by staff members and peer-peer interactions were less commonly observed. One way that students did relate to each other was through food. Often during lunchtime, there would be at least one instance where a young person would reach out to take food from another’s plate – often food they didn’t have themselves or they may not have been allowed to have. For example, some students had particular eating requirements and could not or were not allowed to eat certain things. This was sometimes due to individual preferences or religious restrictions, but others related specifically to autism. One student in particular had a restricted diet, gluten-free among other things.⁵⁷ This particular student was often observed reaching for other foods that were not allowed but seemed to attract this student. In another example, Tilly reached out to take Cat’s glass of squash, who shouted ‘No!’ as Tilly’s ABA tutor quickly grabbed the glass. Tilly hid her face in her hands. The tutor poured some water into a glass instead and put it near Tilly. I thought Tilly’s response meant she was embarrassed, but the tutor turned to me and said, ‘She’s angry. Her mum doesn’t allow squash, but she knows what it is.’

Trying to take other food was reprimanded behaviour, but it was in these instances when young people themselves initiated interactions to manage their own food and drinks. The anticipation of such actions often led to strategic seating arrangements and placement of staff around the table, which itself potentially limited other relations among students. Food, drinks, and dishes were handed out and managed

⁵⁷ Dietary interventions for autism, particularly gluten-free and casein-free diets, have been vigorously studied to see if they might limit autistic characteristics, despite a lack of convincing evidence of long-term benefits of these type of diet (Piwowarczyk et al 2017).

by staff members, who seemed to assume this role automatically – one HLTA, Jo, joked that another staff member had peeled her banana ‘without even thinking’ earlier that week. Eating outside perhaps led to heightened attention to and intervention in students’ interactions with food (as suggested in Chapter 5), given the close proximity of different bodies.

Food-related practices enacted autism and autistic bodies in different ways. This was observed in a lunchtime conversation between two ABA tutors (within earshot of the young person they discussed but without involving him). One said she would have liked the mother of the young person to give him healthier food and try a gluten-free diet, as she had read this was beneficial for autistic people. She said she felt this could help his behaviour. The food was seen to contribute to the autistic characteristics of the young person, a claim that remains unsubstantiated (Piwowarczyk et al 2017). The interaction with food was mediated not just via the staff member in the polytunnel but was also influenced by other sources of knowledge – family, health care professionals, educationalists, popular opinion. Here the practices of eating – the material, physical, chemical interactions between food and body – showed the body itself as a site of contestation in the more philosophical debates around autism and one in which the young person himself was perhaps least in control.

However, practices of eating outside also offered opportunities to try new things and break existing routines, and the knowledge that staff had about young people’s previous behaviour and habits was also open to challenge and adjustment. This was partly facilitated by being outside the school environment. The very experience of eating in new and unusual environments – such as a van, polytunnel, or field – was different for everyone, providing a new embodied experience that was shared. It opened up routinised practices – like eating lunch – to more change and adjustment than normal. There were also instances of trying different foods for the first time, partly enabled by practical needs of the outside environment, where eating a cut-up sandwich was easier, for example, than a plate of rice. The time spent outdoors

further enabled and encouraged wider, new experiences for some of these young people.

Sensing and touching food

Edible food was not, however, just for eating. Food was also involved in other practices and there was a broader sensory experience of food beyond simply tasting it, as shown in the following vignette.

Vignette 7.2

A trip to the farm was cancelled due to short-staffing, so the class activity was pickling onions in the classroom instead. The onions had been harvested and brought back to school from the farm the week before. The students sat around two tables, interspersed among staff. On the table were boxes of raw white onions, chopping boards, knives, vinegar, a bowl of water for washing, and a large pickling jar. The students helped peel the onions while the staff cut the tops off before washing them and putting them in the jar. One student, Tilly, held an onion up close to her face so it touched her nose. She smelled it, then bit into it. It was not in her mouth for long, as she spit out the pieces onto the floor. Her support worker said, 'No, Tilly' and Tilly stopped moving. She kept the onion in her hand in her lap and after some time her eyes began to water.

Ali was sitting next to me and also picked up an onion and smelled it. He smiled and called out while he was sitting there holding the onion. I spoke to him about the strong smell of the onion and how the smell can make your eyes water. After awhile, his eyes did begin to water and I told him not to rub his eyes with his hands or fingers. He got up to wash his hands in the sink. He came to sit back down and, as we worked on peeling onions, he picked up the onion peels and moved quickly to the bin to throw them away. When he came back again, his eyes (and those of others around the table) continued to water to such an extent that one of the staff members decided to stop the activity. The onions were too strong.

Events like this one demonstrate the influence of things in the material world, in this case a potent onion. The sensory experience the onion provided was sought out by young people like Tilly, but it also evoked common sensory responses in our bodies that led to the stopping of the activity. It also enabled new interactions, as I spoke to Ali about the possible effects of onion juice in eyes and he demonstrated his understanding by getting up to wash his hands. Upon reflection, it was in sensory-based interactions like these where I found myself intervening to actively start or stop interactions because of my own assumptions of a shared embodied experience – something akin perhaps to ‘sensory empathy.’ I stopped the sensory experience of Ali rubbing his eyes with oniony hands by describing the properties of the things in relation to our bodies because I could also imagine feeling them. Such interactions were built on my own assumptions of the sensory limits of the (my) body and the discomfort of stinging eyes. My assumed connection was in the shared embodied experience, in the body’s and the senses’ responses. I was surprised by the instigated actions of the young people themselves as they smelled and bit into raw onions because they did not abide by boundaries between such evocative objects and bodies that I had assumed we shared. This furthermore made me recognise and acknowledge my own sensory responses, which I might not have otherwise considered. Instead of seeing these young people themselves as different or atypical, I instead began to see our relations to the onion as different.

More unusual interactions like Tilly’s bite of the onion did not stop the activity though. Rather it was the common response of tearing up – the shared and visible experience that I and others could see and feel – that stopped the activity. In this instance the shared experience and empathy of stinging eyes broke up the practice of pickling onions, not the unshared experience of biting into a raw one. This suggests the importance of shared embodied encounters and the challenge of understanding sensory experiences with some notion of ‘sensory empathy.’ This is discussed further in the section on senses and bodies later in this chapter.

Food practices as motivational

The important nourishing and sensory roles food played is demonstrated above. These practices catalysed others that also demonstrated the importance of food, such as those that involved food as an object to motivate learning, be that in relation to practicing different activities or different behaviours.

Vignette 7.3

During one of the walks around the field at the farm, Amanda, the main class teacher, picked some ripe raspberries for the students to eat. She held out her open hand with a pile of raspberries and instructed everyone to take just one. Students took turns reaching out to take one – she closed her hand when one student reached for two. ‘Just one,’ she said. She later told me she was trying to help this young person eat more slowly, making the activity as much a way to practice control and following instructions as it was about enjoying raspberries.

Vignette 7.4

On the way to the farm one day, I got a ride with Kelly, an ABA tutor, and the student she was working with, Tilly, who was in the back seat. While parked at the snack stop lay-by, Tilly pointed to her mouth to show she wanted food. Kelly told her to sign for it, so she signed ‘apple’ in Makaton and was given an apple. When she finished, she pointed to her mouth again. Kelly asked her to sign again, so she signed ‘banana.’ She was given one piece of banana and had to continue to sign ‘banana’ to receive more pieces.

Vignette 7.5

Ali sometimes made a loud, deep sound in his throat, which was a behaviour that tutors and support workers were trying to stop him from doing. One time after he did this, his plate was moved to the side by his ABA tutor who said, ‘What do you need to

do?’ He put a finger to his lips. She said, ‘Tell me.’ He put a finger back to his lips again and said, ‘Shhh.’ ‘Yes,’ she said. She returned his food. In another instance, while he was eating, he made the noise and a staff member held up a hand in front of his face and said, ‘Stop.’ ‘Stop,’ he said. ‘Good job,’ she said.

As demonstrated in these vignettes, food was sometimes used as motivating mechanism for increased communication or desirable behaviour. Food was seen to be an effective motivator that often held sway over young people’s behaviour, communication, and choices. But such practices were also observed to have further possible implications, as young people may not be able to regulate their own bodies according to hunger and bodily need in an environment that rewards compliance. This was seen in one experience at lunch when a tutor pointed to Ali’s half sandwich and said, ‘Eat up your sandwich, Ali.’ He put the rest of the sandwich in his mouth, so it was very full and he could hardly chew it. He handed her the empty plate. Another staff member said, ‘He hasn’t touched it for a while so I don’t know if he wants it. Ali, if you don’t want it you don’t have to eat it. Are you finished? Sign if you are finished.’ He signed the Makaton symbol for finished, his mouth still full. Mediating and manipulating the eating of food through instruction can therefore have unintended outcomes, in which compliance or following instructions may conflict with young people’s own bodily needs, knowledge and autonomy. This becomes even more critical to understand given the suggestion that certain internal senses, like hunger or pain, may be experienced differently by autistic people than by those without autism (Fletcher-Watson and Happé, 2019).

Summing up bodies in relation to food

This section of the chapter has examined food practices in relation to autistic bodies. The physical requirements of food and nutrition were seen to be important and became routinised in daily schedules. There was a looser connection between eating and place, and this is one of the opportunities that this outdoor environment offered. Young people were able to eat in different locations without adjusting the embodied temporal routines of eating, which was described to me by a staff

member as intentionally helping them learn how to eat in different places. This was part of a longer-term plan to support transitions to adulthood, resonant of the discussion in Chapter 5. But food was also implicated in practices beyond eating and body maintenance. Other food-related practices enabled shared embodied experiences, such as when bodies were commonly nourished in new locations and everyone shed onion-induced tears.

Food practices were also seen to be integral in the enactment of the autistic body. Food was important for nutrition and sensory stimulation and also became a powerful motivator for individual communication and behaviour. There was regular mediation about what food young people eat and how that happened – by staff at school, parents, and health care professionals or expert knowledge from afar. Some of these regulatory or management practices could be seen as attempts to ‘normalise’ behaviour by diet. The material presence of autism in accordance with parental expectations, family culture, nutrition, popular culture, and guidance from medical professionals were all influential in the actual food-based activity. In this sense, autistic bodies in relation to food were sites of contestation, demonstrating the role and importance of bodies in the enactment of autism, which itself is often overshadowed by the focus on cognition, neurodiversity and the autistic mind.

7.3 Embodied communication

The methods of communication used by young people in this study varied significantly, and two of the autistic young people rarely if ever used verbal communication. Communication often involved manipulated objects like tablets and laminated symbol/image cards and various uses of the body, including Makaton signing, gesture, or other ‘body language’ as shown in the following vignette.

Vignette 7.5

In one morning welcome circle, Amanda sat on an office chair and rolled it around the circle to say hello to each student. Each day the welcome song was sung to each student, the beat kept by patting their legs in time to the rhythm: ‘Hello Tilly, Hello

Tilly. I hope you have a really good day today.’ After the song, Amanda asked each young person to shake her hand, find their photo on the chart, and add it to the ‘Registration’ board at the front. One morning, when she wheeled over to Alex, she said, ‘Hello, Alex. Can you say hello this morning?’ ‘HI!’ he said loudly, bringing laughter. ‘Mixing it up today, Alex,’ she replied with a smile. After Alex’s turn it was Ali’s. He bounced up and down on the sofa, turned his head and smiled. Amanda held out her hand as if it were a microphone he could speak into. He did - ‘Hello.’ When it was Mo’s turn, he sat quietly for a minute while Amanda waited for him to touch her hand in greeting. He never did that but he did take his photo from the board and put it on the wall.

After the welcome songs, musical instruments were distributed to play along with other songs. This morning, Ali handed out the instruments with help from Amanda, who encouraged him to say everyone’s name as he made his way around the circle. When he got to me, he said ‘Alison, choose.’ I said thank you and picked one. As he moved around the circle, I observed two students sitting next to each other and silently bickering over instruments. Tilly took Cat’s instrument from her and gave her the one that she (Tilly) had chosen. Cat tried to give it back but Tilly shoved it away. Cat put it back in Tilly’s lap. Tilly picked it up and passed it back to Cat, by putting it near Cat and then dropping it on her lap. Sam, who was sitting on the other side of Tilly, had coconut shells for playing in his lap. One song later, I looked over and Tilly had also taken these. She handed one to Cat with the same insistence as before. It fell on the floor and I picked it up, asked for the other one from Tilly, (which she handed me) and gave them both back to Sam. During none of these encounters did any of the students look at each other.

This vignette shows how bodies are important in communication. Significant time is spent on developing reliable methods of communication with young people, and this was part of everyday practices – whether that be practising eye contact, using verbal language, responding in full sentences, using an iPad app or PECS symbol cards to communicate, or expressing ideas in Makaton. Given that not all the students used verbal communication, much of this work involved other material objects and most

always involved the body in different ways – signing, close physical proximity, small touches, gestures, or whole-body movements.

There was, on the whole, more observable communication using the aforementioned methods between staff members and young people than among young people themselves, but the vignette above is an example of non-verbal, mediated communication between young people. These relations were sometimes mutual and joyful, as when students would occasionally lock hands and rock back and forth together to music or give each other high fives. Sometimes they were helpful, as when Ali picked up Sam’s twizzle paper that he played with from the ground and handed it back to Sam who took it silently from him. Other times they resembled bickering, as in the vignette above or when students would throw mud at each other (see Vignette 6.11) or pinch food off each other’s plates. Noticing how they initiated these material conversations with each other showed that young people often seemed to have an awareness and knowledge of each other’s bodies, interests, and movements.

Foregrounding this embodied communication does not just ask about different modes of communication but it also challenges the dominance of verbal ‘voice’ as a means of communication, which holds an authoritative weight in human connection (MacLure et al 2010), something I recognised in my own experience in the setting. When I shared verbal communication or eye contact with a young person, I felt and assumed a meaningful connection. When Ali said my name as I took an instrument and said ‘Bye’ to me quietly in a later field work session, I felt pleased, thinking he was becoming more comfortable with me. I became more aware of this assumption of connection the more time I spent in the classroom and the more I read about autistic people’s own experiences, realising they may not experience connection in the same way (Milton 2012; Sinclair 1993).

This experience made me consider what happens in a situation when ‘voice’ as spoken word is not the dominant form of communication. MacLure et al (2010, p.493) discuss the performative nature of silence itself in a study of reception-aged

children who chose to be silent. They discuss doing research in such a setting and assert that ‘attentiveness to the performance of silence requires the practice of “patient listening”’ (MacLure et al 2010, p.498). This aligns with Mol’s (2010, p.10) recognition that care practices are comprised of a large ‘non-verbal component’ that can be overshadowed by attention to verbal interaction. Furthermore, recognising silence and the silent body as an actor in itself ‘trouble the notion of voice as an indicator of authenticity, immediacy, or narrative authority in qualitative inquiry’ (MacLure et al 2010, p.498). However, in this classroom, while there was not regular verbal communication from some autistic students, I would also not describe them as ‘silent.’ Young people often made different noises that were not words, and the bodies were often very active, walking, rocking, bouncing, or displaying various stimming movements as seen in the vignette above. In practice, the lack of verbal communication created different responses. It sometimes drew a heightened awareness to communication through the body and brought about practices that accepted their silences and rhythms in the welcome circle. It was also sometimes less tolerated, as when support workers would reply to comments I directed to young people when the students themselves stayed silent.

The silence of some young people also sometimes led to assumptions about a lack of understanding or ability to communicate their own needs. There were numerous observed instances where young people showed ‘receptive language’ as it was described to me, a demonstrated capability of understanding verbal conversations and requests. While this can be difficult to assess in everyday situations, the four young people in this study regularly acknowledged or responded to requests or comments made by others. At the same time, somewhat sensitive conversations between staff members about young people or young people’s families occurred when young people were present but not involved in the conversation, as if their bodies in this instance were not present or receptive. It was during these conversations that the bodies-in-relation took on almost a strange double role. In the conversation I overheard (see p. 182 in this thesis), the staff members talked about the health and development of a young person, but the presence of the actual, tangible body of that young person was essentially ignored. This is an

interesting contrast to the discussion in the Chapter 5 about the careful attentiveness and awareness of bodies. At times bodies seemed to play almost a larger-than-life role, while at other times they seemed invisible. Practices of communication between staff and young people, particularly those emanating from the ABA framework, seemed to make communication a more formal activity, as if the body was only receptive and responsive to certain prompts or at certain times but unreceptive at others.

7.4 Sensing bodies

Interactions between bodies and the environment happen in the realm of the senses, itself an area of burgeoning study in the social sciences, as seen in scholarship on senses and sensory ethnography (Solomon 2010; Manning 2007; Pink 2015; Alper 2018). This study is not an ethnography of the senses per se but given how recent research and personal narratives of autistic people have highlighted the diverse range of sensory experiences of autistic people (Haigh 2018; Miller 2003; Grandin 2006), it is important to include here. As discussed in the literature review in Chapter 2, the sensory profile of each autistic person is seen to be unique in various realms, in that they may have enhanced perception and sometimes might be hyper-sensitive to certain stimulus and/or hypo-sensitive to others and this can change in different places and over time (Haigh 2018). The importance of sensory experiences was evident in many observations in this study, some of which are highlighted in the five vignettes below.

Vignette 7.6

One day I was walking with Alex and his support worker Harriet from the classroom to the bus. We entered the large school gym and Alex looked straight up to the fluorescent light fixtures in the ceiling of the gym, which were on. I commented that he was observant to the world around him. Harriet said that he recently had a hearing test, which showed that he can hear frequencies that most people cannot. She said sometimes they walk past electricity posts and he will put his ear to it and hum.

Vignette 7.7

I was walking with the class and crossing a road that ran between a parking lot and the garden centre. It was a very windy day, grey skies. Tilly stopped in the middle of the road, turned her body around, and just stood there. Her ABA tutor, Kelly, walked back, took her by the arm and guided her to the other side of the road. 'She doesn't like the wind in her face,' she told me.

Vignette 7.8

Ali loved music. When music played, he often swayed or stood and danced with others and many times sang along to the music. One afternoon, Ali was sitting in the classroom during 'choice' time when students each took a turn to choose a song to listen to. The song playing was Bob Marley's 'Is this Love' and Ali sang along. He was also holding on to 'Jim,' a stuffed doll. At one point, he began to make a throaty snorting noise, one he often makes throughout the day. It is one of his ABA targets to stop making the noise. His ABA tutor, Kelly, asked him to stop but he didn't, so one of the class teaching assistants, Emma, came over and said, 'Quiet, Ali.' She took Jim from his arms and said, 'I'll just hold him a minute until you're quiet.' He stopped making the noise, got Jim returned to him, and carried on singing the song's chorus.

Vignette 7.9

One afternoon I was working in the field with Ali and Tess, his support worker for the day. We were digging up old parsnips out of the ground when Tess had to take a phone call and asked if I could 'watch' him. Ali dug up a muddy parsnip and put it straight into his mouth. I told him to take it out because it was dirty, and he did. He reached to the ground to pick something up and thinking it was dirt that he might put in his mouth, I started to tell him stop. But it was just another parsnip lying on the ground, and he cleaned it off with his hands and tossed it in the wheelbarrow.

Vignette 7.10

While cleaning up together one day in the polytunnel, the class teacher, Amanda, explained to me that most mornings she will ask the students what the weather is outside. She said the students would often state or choose weather pictures that were different to what was actually happening outside at that moment. But, she said, more often than not, the students' choice turned out to be true. 'They know something,' she said. 'Something we should probably listen to.'

These vignettes, along with others throughout this analysis, demonstrate the variety of sensory experiences and practices observed in this study. The materiality of the farm enabled certain sensory and embodied experiences and associated practices. Aspects of the natural environment might be discussed and represented in the classroom, where the weather was seen through the window or discussed via laminated pictures but at the farm, it was seen *and* also heard, smelt, felt on the skin, be it through 'sun therapy,' sudden downpours or gusts of wind.

Some sensory-related events also enabled shared, common experiences, like the tearing up over cutting onions or wet rain on skin. Others demonstrated differences between bodies, such as the recognition of Alex's ability to sense vibrations from electricity. While the wind blew everyone, only Tilly was consumed by the experience enough to stop in the middle of the road. Yet these sensory events were powerful in the ways they initiated activity and practices and shaped the embodied experience. Manning (2007: xii) recognises this: 'the senses prosthetically alter the dimensions of the body, inciting the body to move in excess of its-self toward the world.' This heightened perceptual experience suggested that autism could sometimes be seen and enacted as sensory 'excess.'

Beyond the observable physical responses, it could be difficult to understand what the sensory experience was and how different practices or actions linked to it. Such sensory experiences were difficult to confidently observe and understand. It was

possible to sometimes observe an individual's reaction but not so much the actual sensory experiences, as in Alex's experience with different frequencies or Tilly's encounter with the wind. Even staff members who were knowledgeable, attentive, and responsive to young people wondered and hypothesised about young people's regular behaviours, as observed in a conversation related to the deep, loud throaty noise that Ali often made. Teachers and tutors regularly intervened to get Ali to stop the noise, both through removing food or sensory objects until the noise stops – or, arguably more difficult, rewarding the absence of the noise (as shown when one ABA tutor said, 'When he is quiet, he gets stars.'). The conversation I observed about this noise was between four school staff members and ABA tutors who commented that Ali had been particularly noisy that week. Each wondered why he made the noise – Did he have something in his throat? Was he uncomfortable? Was it related to sensory stimulation? Could he help it? One staff member suggested he could control it because he did stop making it when something he wanted – food or Jim the stuffed toy – was taken away for a minute. Another conceded this but said he still shouldn't be punished or told off for it. The catalyst and reason behind Ali's behaviour remained unclear but practices attempting to contain and stop the noise carried on. The noise was not a desirable behaviour. This may also align with a certain framing of Ali's possible futures, as suggested in Chapter 5. Such unsociable noises could contribute to even more uncertain futures – would he, for instance, be able to work at that charity shop and make this noise?

It is no doubt difficult to develop an understanding – empathy even – to a sensory experience that I do not have, as Manning (2007, p.xii) notes that 'the challenge when working with the senses is not to presuppose that we already know what it means to sense.' Such a recognition again aligns with Milton's (2012) notion of the 'double empathy' problem – that an insufficient clouded understanding of the 'other' is a two-way street between people with autism and those without autism. It also, however, adds another component. It may be the different *relations* with other people and things that are difficult to understand, rather than the *individuals* themselves.

Considering the relations in these vignettes rather than focusing on the individuals alerted me to certain materialities that shaped the practices but that I myself cannot see, hear, or feel, like different frequencies. This raised questions around the efficacy of the method of observation in identifying 'invisible' actors – but it also makes space for such invisibility, for looking out for what might not be seen or experienced oneself. Because of the method of observing materiality as well as social actors, I became more aware of what sensory-related aspects might be part of the sociomaterial practices – the role of the wind, for example, the bright sunlight, the sound of the lights, the taste of onions or dirt. At times these sensory experiences and inputs stopped young people from pursuing an activity, other times they invited a new interaction. They were agential and deserving of attention.

Sensory-based interactions also brought about varying and often opposing enactments of autism. Some sensory responses were seen to be positive, even extraordinary, as in young people's 'knowing' about the weather while others were interrupted when they were regarded as unwanted behaviour. These sensory experiences also demonstrated that these autistic young people had knowledge and understanding about the world that may not have been visible or evident in conventionally valued ways. They did not, for example, relate to ASDAN-based notions of 'knowledge' or 'skills.' The different sensory profiles that Tilly or Alex might have demonstrated a certain way of knowing the world, as suggested in the teacher's statement that young people 'know' something in an embodied way. As this teacher intimated, such knowledge was often contradictory with what might be 'known' by observation - as the weather outside or the meteorologist report might show. And this sensory, embodied knowledge was perhaps less valued.

There was a selective acceptance of and interest in these different sensory experiences, partly in line with how much the related behaviour interfered with expected norms, practices, and routines. Sensory experiences that were disruptive (and perhaps often unsocial) -- like loud throaty noises or spitting on the ground – were often interrupted. Some were attempted to be 'trained' away, through ABA mechanisms like Ali's target to reduce the loud noise he made. In this instance, the

‘motivator’ and the target behaviour to change were both sensory-based things but one was unwanted even if poorly understood. These vignettes suggest an important role of the body as a site of knowledge. Bodies demonstrated needs, sensitivities, emotion, and interests, not only to other people but also to the world around them. What is more important to note here – instead of knowing a person’s exact sensory profile – is the recognition that human sensing and knowing is unique, variable, and produced in relation to what we interact with. This range of sensory-based knowledge enacted varying versions of autism, sometimes holding little authority or value and at other times instigating new practices and wonder.

7.5 Examining bodies-in-practice

This chapter has examined the roles that human bodies played in different practices in and around a natural environment. Three main areas of analysis examined these bodies-in-practice – in their relations with food, as part of communication, and the importance of the sensory experience. Through the analysis, bodies have been shown to be produced through relations and sites of contestation in relation to autism.

Seeing bodies-in-relation

Bodies do not move, breathe, work, grow, eat, touch, or sense on their own, independently. They react to their environments and influence those environments in return. They exist in relation (Manning 2007). Reynolds (2018, p.S34) discusses seeing bodies this way, where a body’s abilities ‘neither end nor begin at the skin, but instead supervene on and extend to the world in which one lives and on which one ever depends ... abilities emerge through context-dependent relationships between an organism and its environment.’ Notions like this resonate with a sociomaterial framing of ‘disability’ – where it is the entanglement and relations that need examining, not simply the individual or the society they live in (Winance 2016). By examining bodies-in-relation in this study, they were not seen to be singular entities that develop along certain trajectories, but they were sites of emergent and

yet unknown possibility, where different ways of being were opened in relation with different places. This chapter has also described how bodies were extended by other objects and materiality, interacting with and responding to both visible and invisible material things. In other words, bodies were enacted in relation to these other things and people.

Autism is often associated with routinised and repetitive behaviour, as seen in the diagnostic criteria and other literature (Fletcher-Watson and Happé 2019; Batten 2005). However, as shown in the vignettes in this chapter, this was not always the case. Autistic bodies were enacted in multiple and contradictory ways. Bodies were highly managed and sometimes prone to routine, yet were still unpredictable. They were extremely sensitive and also resilient, stoic. They were invisible, yet extraordinary. Like ordinary bodies, they were also unreliable and untidy (Freund 2001, p. 691). The vignettes in this chapter depict how bodies were sites of contested knowledge related to autism – about how learning was seen to happen best, about what food they should eat, and how young people should interact with the world. Different practices related to bodies demonstrated different understandings of and assumptions about autism. Beck (2018, p.1306) suggests, ‘distinct epistemic communities ... produce different ways of speaking and thinking about autism,’ and I would add, practicing it. Practices enacted versions of autism and autistic bodies that were deficit-based and oriented to behavioural intervention or control. Other practices demonstrated extra-sensory bodies that ‘knew’ the world in heightened ways.

Observing *bodies-in-relation* held particular resonance in this study, in shifting the focus of attention to autism in the body rather than in relation to the mind and cognition. The mind-body relation of autism is complex. Autism is often seen to be a characteristic associated with the mind/cognitive/social realms but diagnosed and managed at the level of the body (Fletcher-Watson and Happé 2019). While the cognitive or sensory aspects of autism cannot be seen, bodies were present and visible and their actions were observable, something to interact with. For example, risks around taking this group of students outside comes from many different places,

but that risk is often managed within and around the body – in the number of support workers required, in the clothing that is used, in the gloves provided for working, in the placement of bodies on the bus.

Observing bodies-in-practice also showed ways in which they actively shaped the experience, and sensory and physical needs evoked routines and practices that structure the rhythms of the class—from hygiene to eating to rhythms of movement. Some practices involving the autistic body used these embodied needs – perhaps as separate from reasoned thought – as the means to changing behaviour, to learning even. Paying attention to the body – in ways that listen to and value bodies-in-relation to other people and things – may be particularly important for autistic people like those in this study who used different methods of communication and who seemed to have sensory experiences that non-autistic supporters could not always relate to.

Bodies at the farm

As shown in this chapter, the environment of the farm sometimes enabled bodies to relate in new ways – to the food that nourished them, to the stimulus that prompted different sensory dimensions, to the ways they communicated and moved across the landscape, to how they related to other people and things. At one simple but important level, it allowed bodies to be present and visible in the outdoor world, to participate in ordinary activities like growing vegetables and walking over grass – unusual experiences for many of the young people in the class. Going outdoors was partly motivated by this explicit attention to bodies, as suggested by Amanda in her interview: ‘They end up doing something a bit more physical ... there’s physicality in what they do.’ At the farm, people moved more and in ways they usually would not have -- they dug, walked on new surfaces, grew plants, pushed wheelbarrows. Some physical interaction also became learning targets for individuals.

This environment also provided a chance for bodies to experience the living and natural world through direct contact and touch, rather than through descriptions,

films, or laminated representations – perhaps particularly meaningful for those with heightened perceptual characteristics. There was more opportunity to be in contact with, relate to, and constitute nature in the farm environment. This was one of the intentions of the farm visits, as articulated by the main class teacher, Amanda:

They interact with things that are real. So not photographs of something, not a plastic replica of something. Not looking at something on a smart screen. Quite often in special schools ... the tendency is to show young people videos of other people doing stuff ... I think they need to experience it themselves.

Combined with autistic young people's embodied knowledge of the material world more broadly, such environments offered the chance to experience the world outside and practice becoming bodies in different ways.

Chapter 8: Discussion

8.1 Introduction to Chapter 8

This study is set at the intersection of the natural environment, childhood/youth, and autism, three areas subject to significant scholarly interest as well as public concern. Today, there is certainly heightened attention in public conversations about the value and benefits of human relationships with natural environments and a grave concern that this is eroding with potentially disastrous consequences (Hartig et al 2014; Hine et al 2008; Louv 2005; Gill 2007; Kahn 2011). These discussions are more pronounced for disabled people, in that there are often fewer opportunities to be in the outdoors and also more hope of its possible therapeutic benefits (Travlou 2006; Blakesley et al 2013).

This study engages with these discussions by examining four autistic young people's encounters with the 'natural' environment of a farm. A rapidly increasing interest in autism has been driven by rising prevalence numbers and uncertainty about its causes or nature (Weintraub 2011; Fletcher-Watson and Happé 2019; Hollin 2017). Its characterisation as an 'epidemic' has led to increasingly fractious debate about what autism 'is,' how its understanding is situated and what, if any, interventions are preferable (Eyal 2013; Orsini and Davidson 2013). Significant amounts of funding and research into the cause and prevention of autism are met with increasing calls for the acceptance of autism as a valuable neurological difference, the participation of autistic people in knowledge production about autism, and more attention to developing support services for autistic people than ways to prevent or cure it (Milton 2014; Silberman 2015). How education can best support the increasing numbers of diagnosed autistic children and young people sits squarely in these debates and have become critical areas of inquiry.

While recognising this background context, I have called into question some assumptions found in these debates. I also remember that the phenomena under examination are relatively modern concepts -- 'childhood', 'youth,' 'autism' and

psychological measures of normal development are all, as discussed in Chapter 2, 19th and 20th Century developments. This study therefore contributes to the ongoing wrangling with what these phenomena are and how they might be understood. In this study, I have questioned an essentialist framing of these concepts that suggests they are separate entities, and in which 'autism' is a singular disorder held within the individual and 'nature' is just a passive backdrop to human action. Instead, I examine the practices and routines that enact autism in and around encounters with a particular natural environment, seeing them as co-emergent in their relations. This disrupts the common assumption identified by McKibben (2003, p.7) that the natural, physical world is a 'stable background against which we can run our race.' *Rather, I show that neither autism nor the young people nor the natural environment at the farm were stable entities but they came to be in relation to each other – they 'became' together.*

My analysis has demonstrated that both a natural environment and autism might be understood as complex, multiple, dynamic phenomena. When seen this way, it becomes increasingly difficult to state with assurance how 'one' affects and benefits the 'other.' I instead ask how their relations shape each other, bringing each other into being, and in turn considering new and different possible ways of relating through this co-emergence. This study provides empirical evidence that addresses the gap noted by Bolte and Richman (2019, p. 3), who suggest that discussions about autism have still 'too often been abstracted from real life.' With that in mind, this discussion chapter pulls together the analyses from the previous three chapters to address my research aims: first, to understand what happens when autistic young people are supported by schools to spend time in a natural environment of a farm, and second, to explore how autism is enacted in and around the farm environment. In particular, I use this chapter to respond to my research questions:

- What are the sociomaterial practices that characterise autistic young people's school-enabled experiences in the natural environment of a farm?
- How is autism enacted in these practices?

This chapter first looks at what practices happened in and around this outdoor natural environment. These included opportunities to participate in new practices and tangibly interact with the world; to enact routines differently in evolving places; and to provide common, shared experiences that further evoke different student-staff relations. It secondly describes how autism is enacted in multiple ways in these practices and in relation to different versions of the farm environment. This chapter then goes on to build on my observations and analysis to make some propositional recommendations arising from the study. It suggests pedagogies and approaches that might support opportunities to flourish in perennially uncertain futures. Finally, the chapter ends by exploring how this detailed study of plants, polytunnels, teachers, risk assessments, and four young people raises bigger questions, troubling what it means to be human in our worlds.

8.2 Sociomaterial practices in and around the farm

This study examined the sociomaterial practices that enacted autism in the outdoor environment of a farm. Education is often studied through a humanistic lens that focuses on the activity and development of the individual (Kontopodis and Perret-Clermont 2015; Postma 2012; Fenwick et al 2011). As explained throughout this thesis, I also considered the situated materiality of the environment to be active in the educational experience, including things like the weather, plants, mud, fields, and infrastructure. I did this by paying attention to practices, or the regular 'doings' that were made up of configurations and connections between different sociomaterial elements. Rodogno et al (2016, p. 401) describe how a focus on practices in context is a useful way for 'animating' and shedding light on what is important, which they did in relation to autistic wellbeing. In this study, practices made visible and demonstrated what was seen to be important educational or developmental activity and the different ways that autism and the natural environment were enacted. In this section of the discussion I look at how practices in and around the farm enabled young people to be more visible and active, adapt to changes and uncertainty within routines, and share moments with others.

8.2.1 Enabling more practices: Becoming visible and active in the outside world

The experiences in this natural environment brought young people into direct, physical connection with the tangibility of the physical, outdoor world. This may seem a less-than-profound observation and a rather obvious product of outdoor learning, long been seen to support learning 'by using the senses out where the subject matter exists' (Donaldson and Donaldson 1958, p.17). But interactions with 'real' things in the world often existed for these young people through representations, drawings, pictures, technology apps, or laminated cards. But when going to the farm, the young people in this class were visibly active in new ways with the tangible physicality of the outdoor landscape. As demonstrated throughout the preceding three chapters, in the outdoors there were many opportunities for touching and interacting with material elements of the world not found indoors -- wind, rain and sun; mud and clumps of soil; tools and wet weather gear; wheelbarrows and flower seeds; vegetables straight from the ground. These are the 'direct encounters' with nature that Kellert (2002) describes. Scholars in the field like Kahn (2011) suggest that access to representations of natural things is better than none at all but not as good as the real thing. The direct encounters with actual things (rather than their representations) was a motivating factor for teachers to take the young people outside. In her interview, Amanda told me,

They get exercise, fresh air and interact with things that are real, so not photographs of something, not a plastic replica of something ... There is a tendency to bubble wrap a little bit, so for them it is something very, very new – very different.

The visits to the farm contained encounters that would be unusual in the rest of these young people's lives. This actual experiencing of nature through educational experiences outside has been strongly advocated as 'intrinsically and qualitatively different from anything the child confronts in the human built world, no matter how well simulated, technologically sophisticated or 'virtual' these manufactured representations may be' (Kellert 2002, p.140). This direct experience with nature is

furthermore suggested to potentially support aspects of health and wellbeing of children and also to develop environmental connections and stewardship (Louv 2005; Liddicoat and Krasny 2013).

In addition to offering a bridge into an everyday world of real, material things in a natural environment, the outdoor experiences also introduced more ordinary – perhaps mainstream – practices to young people than they would likely have found at home or in school. They had a chance to do more in the outdoor natural environment – dig, pull, walk, clean off dirt, rake, sit in the sun, push gates and wheelbarrows, walk on their own, pick apples, and touch chickens, grass, and woodchips. They were active in this horticultural environment, where they did physical work and had quite literally a wider range of practices to practise. These new practices also included meaningful activity like working on the farm – planting seeds, digging and replacing the soil, composting weeds, and harvesting vegetables. Such ‘meaningful occupation’ has been recognised as valuable and important in other ‘green care’ farm-related activities (Sempik and Bragg 2016) and may be particularly so for young people preparing to transition out of the school environment.

This broadening of practices and ways of interacting with the world may have been especially pertinent for these young people, as Travlou (2006) suggests that adolescence is a time of reduced interaction with nature, partly due to reduced access to green spaces and increasing perception of risks and control from parents (Von Benzon 2016; Gill 2007; Travlou 2006). This can be more significantly limited – even ‘heavily restricted’ – for disabled young people (Von Benzon 2017b, p.240). My study’s findings supported those ideas, as young people in the study like Tilly and Ali were reported to have few opportunities to go outside and be visible in ordinary places. From this perspective, the experience of being in an outdoor natural environment was a radical one, and the very act of being there -- learning to be outside, in an open air environment, in different types of weather – was perhaps more important than learning about farm practices and the local ecology, which might have been the focus of other work experience students there.

The ordinariness of going out-of-doors was partly also what made it risky and akin to an act of rebellion at the school. It made the young people visible in ways they usually were not. And through the four young people in this study, it also made autism visible in the world ‘out there.’ There were practices in place to reduce the risks of going outside into uncertain environments, but the act of going outside provided young people ways of choosing, moving, and rebelling in ways that the locks and doors of the school did not. They could run across fields, walk around opposing bodies, and throw dirt at others. There were opportunities for greater risk taking, often seen as a positive attribute of outdoor learning more generally in how it can promote development and growth of attributes like self-esteem (Wattchow and Brown 2011). These hearken back to ordinary framings of adolescence as times of increasing autonomy and rebellion from adult norms (Zimmer-Gembeck and Collins 2006; Mitchell and Glendinning 2007) – ordinary aspects of adolescence these young people could rarely practice. The experiences of being outside, in contact with the natural environment, free(-ish) to roam, and do physical work were unusual and seen to be positive by many of the young people themselves, as Ali suggested once when he told me he preferred going to the farm to being at school or other trips.

8.2.2 Doing practices differently: Changing routines in uncertain worlds

This class’ experience at the farm had implications beyond the primary experience of being present and visible and doing new practices. The natural environment of the farm in this study also offered a dynamic place with incremental changes and its own seasonal routines and climatic patterns. Natural environments in this country vary across the year and are ever-changing in visible and sensory ways. This dynamism could on the one hand be seen to increase uncertainty and be a particularly challenging environment for some autistic people who might have some intolerance to uncertainty (Boulter et al 2014) and find the world a ‘very unpredictable and incomprehensible place’ (Batten 2005, p.93). The disruption of changed routines was

observed to affect some young people like Alex, for example, when he missed a welcome circle or lunch changed location.

However, in this study, I found that the farm environment both enabled routines and provided opportunities to encounter incremental changes within these routines. It was a place to practise gradual new ways of relating to an uncertain, changing world – but within temporal routines. An example was the walk around the field, which was routinized and stable as a practice in that it happened each week at the same time. Within it, though, there was variability in how that practice actually happened, in terms of how easy it was to walk on, find the path, or use support from others. This was recognised pedagogically at times too, as it became a personal point of progress for young people like Mo to manage this shifting landscape without holding on to anyone else for support. Other practices – like eating lunch, welcoming young people in the morning circle, or loading up the bus – were also mixtures of precarity and uncertainty within routine. The incremental changes in the environment across seasons allowed for new and evolving relations. They offered a place to practise these new practices in evolving landscapes.

Such incremental changes as observed also chipped away at assumptions of the inherent rigidity of autism, where certain practices or behaviours were always the same. Some studies and writing around autism suggest that unpredictability and uncertainty are undesirable and to be avoided for some autistic people (Batten 2005; Boulter et al 2014; Goodall 2018). But, as suggested in this study, putting routines in place may not end such uncertainty because the routines observed in this research were porous and produced in interaction with many things that themselves were unstable. Repetitive actions, responses, and behaviours could be observed, but in looking closely at the detail, the assumptions that some routines were rigid or unchanging unravelled. Even within high level ‘routine,’ there were multiple areas of uncertainty, opportunities for change and diversification, movement, and interaction. This can be seen in the case of Alex keeping to the routine of eating lunch but finding his own way to get to the lunch site or walking around the field but treading his own path. The observation of these evolving practices and interactions

within routines – at incremental levels of change and adjustment – provided different understandings of ‘progress.’ This is more like progress-in-relation, in activities like adaptation to new surroundings, managing freedom to move in a new space, exploring sensory experience, or trying new foods. Some changes might appear small but can be significant and powerful in what possibilities they open up.

This study suggests that unpredictability and uncertainty are unavoidable and interwoven in our everyday experience. Learning how to live with that uncertainty was important for these young people, within their daily routines and in a broader preparation for their wider transitions, as discussed in Chapter 5. The farm provided an enclosed, bounded place that was described to me as something like a transition zone between the school and the ‘real world.’ Things could be practised there without venturing into the wider public world, where they may not be as welcomed (as seen in the garden centre event in Vignette 6.10). As they prepared to leave the school, these young people’s ability to perform in new interactions and respond to dynamic environments became more important. Focusing on decontextualized individual behaviours as seen in ABA practices was unlikely to support these transitions in the same ways as the evolving yet routinised practices of the farm visits could.

In summary, my observations in this study showed that this particular outdoor natural environment invited new relations and practices that meant that young people (and others) were able to more gently and incrementally learn to respond to uncertainty in routinised ways, which might be particularly valuable for autistic people. The farm also provided a place for more enclosed, bounded practices of transition and learning. The farm environment – and the process leading to it – offered well practiced activities and familiar spaces with a set structure in which to try out incremental adjustments to uncertain worlds.

8.2.3 Doing practices together: Sharing moments in time and place

Human-human connection and relations are often seen as an integral part of our sense of being human, a position described by Barnbaum (2008, p.1): ‘Relationships

with other persons are fundamental to who we are, how we come to understand ourselves, and even to what we believe constitutes a good life for ourselves.’ Social relationship and communication cues like eye contact and verbal communication can be less common or is seen to be ‘atypical’ for some autistic people (Grossman et al 2019). This was often observed in this study, as there was little eye contact or verbal conversation to show shared attention or experience. Many activities and practices were done side-by-side, in parallel, rather than ‘together’ with conversation or obvious emotional connection. I sensed a feeling of distance between me and the young people, partly related to my own unsureness about understanding their behaviour or experience but also likely influenced by age, different positions, or culture among other factors. This made me regularly reflect on the ‘double empathy’ notion discussed earlier (Milton 2012) and how much we could ‘understand’ each other’s experience.

However, as I observed in the practices of this study, the farm environment brought about shared moments where all participants and their bodies were in the same places and engaged in the same practices. This is not to necessarily suggest they were ‘shared’ in the responses or emotions they evoked, but they were practices done simultaneously by all the people involved – such as digging, eating lunch, or changing shoes to wellies. Shared practices could be initiated by the staff members as part of the regular routines or catalysed by the material world – as in the wind or the rain – but these shared moments emerged in the relations between people and things in the environment. For example, lunch was part of the organised routine but the table in the polytunnel organised the positioning of the bodies facing each other in one shared space. The work practices were directed by the farm manager but the use of the same tools in the same dry soil made digging difficult for everyone. The point here is that within the natural environment of the farm, there were many shared moments where young people and staff did practices together. Everyone ate at the same place at the same time; teachers and students dug parsnips together; the potholes in the farm’s drive made all the bodies jostle and bounce; everyone’s faces got wet as they worked in the rain. While that did not necessarily ensure an

emotional or visibly communicated connection, there were moments in the material world that were done together.

As a result, staff members and young people also shared moments of uncertainty, risk, laughter or surprise, sharing experiences of bodily discomfort or hunger or moments of vulnerability in the pelting rain or walking on slippery, uneven ground. This coming together in shared practice enabled opportunities for connection and commonality with staff and young people. There were moments when these connections and shared embodied experience could be clearly seen. We all basked in the sun, and the onions made us all cry.

Throughout the field work, the adults held the majority of the decision-making about the outdoor visits and activities. They organised the trip, made the preparations, and planned for the encounters based on their knowledge of the young people and places. The environment of the farm – the dynamic materiality and also the newness of the outdoor encounters – meant that some usual or planned practices were disrupted and young people had more space and openings to move where they wanted, be unrestrained, and connect with things in the natural world. There were also moments where learning could happen together, as some staff members were not very knowledgeable or comfortable with the outdoor farm activities either. The adults had a chance to learn alongside young people, for example about types of plants and farm practices. This relates to findings from an action research project around outdoor excursions by Mannion et al (2013, p.799), who found that some teachers felt less competent going into an outdoors environment but that ‘being outside in nature was experienced as a space for exploring a new, less constrained professional identity.’ Such moments in this study disrupted existing staff-student relations, allowing for an opportunity to learn, develop, and ‘become’ in response to the environment together.

But these shared moments did not only provide a sense of commonality, they also conversely highlighted differences. It was in these shared moments that I also became more aware of the uniqueness of different experience. In the times when

we worked the soil, got drenched in the rain or walked the field together, I became more aware and attentive to how the sharing of practices did not necessarily equate to a shared experience. I was certainly open to this attentiveness, given my self-declared role as observer, but my own assumptions around the experience were disrupted in a way that meant I could pay attention to the interactions and relations with a young person or simply appreciate an inability to 'understand' their experience in full, recognising we did not share responses to sensory stimulus, for example. By sharing practices, I bumped against young people's experiences and in the process became more attentive to theirs and, indeed, my own. Orsini and Davidson (2013, p.6) state this idea nicely, suggesting that the worlds of autism are 'revealing of nonautistic worlds, as well' and paying closer attention to autistic worlds 'challenges assumptions about what constitutes "normal."'

Given this discussion, what might outdoor learning experiences and an attention to materiality offer in developing understandings of autism? What if, for example, practices furthered commonality of experience and attention to the relations in that common practice, instead of seeking shared cognitive understandings or similar emotional responses? Maybe what is also valuable are moments of shared common practice that flatten conventional relationships and disrupt attention on individual development. This physical proximity and common engagement in the same activities allowed for ways to be attentive to relations, even if those ways of relating were simply in the embodied recognition of how we were all different.

8.3 How autism is enacted in sociomaterial practices

The findings I discussed in the preceding three chapters described how autism, when viewed in relation and through practices, can be multiple and contradictory. My description here resembles the language used in other autism studies ranging across science and social science fields that also describe autism as complex, multiple, and heterogeneous. Hollin (2017), for example, suggests that within the field of autism science, there is a pervasive recognition of autism's heterogeneity and indeterminacy, which he categorises as inter-personal (differences between autistic

people and across a lifespan) and intra-personal (where no one factor can explain the different features of autism). Researchers from psychology and genetics have also suggested there is not just one single autism, but rather ‘hundreds, or even thousands, of “autisms”’ (Jeste and Geschwind 2014). Mandy (2018) and Fletcher-Watson and Happé (2019) point out that corralling autism as a ‘discrete condition’ is unhelpful, as it is actually part of a wider constellation of neurodevelopmental differences. Happé et al (2006) wondered something similar years ago in an article entitled, ‘Time to give up on a single explanation for autism.’ These fundamental questions are at the core of much autism research today. Fletcher-Watson and Happé (2019, p.46) ask in their recently published book: ‘How can we understand heterogeneity within autism? Is autism a single thing, manifest differently ... or are there separate and different “autisms”?’

However, these descriptions of diversity and even multiplicity usually locate autism as a characteristic of an individual, and the multiplicity is seen to be *within* the differences and variety between the individuals themselves or across time or context. This prevailing discourse corresponds to suggestions that autism is a deviation from ‘normal’ individual human development along a certain trajectory. While many like Freund (2001, p.693) argue that ‘impairments and differences are ‘normal’ conditions of humanity,’ the dominant account of autism is that it is a characteristic held *within an individual* that is deficit-oriented (Orsini and Davidson, 2013).⁵⁸ Such essentialisation of autism within an individual and that individual’s mind and body further enables a separation of the autistic person from those who are non-autistic. A distinction between ‘normal’ and ‘abnormal,’ ‘typical’ and ‘atypical’ is drawn.

What I am arguing, instead, is that the multiplicity of autism is not defined by variations in or between individuals but can be understood by attending to the different ways it is *practised*. I argue that autism is not just one singular thing within an individual but that multiple autisms are enacted in the practices and different

⁵⁸ Though this characterisation is also changing as more research includes autistic perspectives and concepts like neurodiversity (Fletcher-Watson and Happe 2019).

relations between and among people and things in an environment. Autism ‘is’ in practice and in situ. While I acknowledge and concur with accounts of autism as diverse and heterogenous, I show in this study that this diversity is not just due to different biological or neurological characteristics between individuals or across one person’s life span but is produced in interaction with other sociomaterial parts of our world. In particular, I argue that multiple autisms emerge in this study in interaction with the also multiple versions of the natural environment of the farm.

In this section, then, I discuss the multiple versions of autism that I observed being enacted in the practices in and around the farm. These different versions were not held in the body, but enacted in relations between bodies, places, people, knowledge, materials, and ideas. It is important to note that while I name these different versions, I am not implying that these are singular entities themselves, nor are they the only possible versions. There are probably more. I identify and disentangle four here specifically for the purposes of articulating the possible multiplicity of autisms made visible in practices in and around this environment.

8.3.1 Meeting multiple versions of autisms and natural environments

My observations and analysis of sociomaterial relations and practices as seen in the preceding chapters showed how different autisms were enacted and often co-existed alongside each other, and that these different autisms also depended on and emerged alongside different enactments of ‘nature.’ One characteristic commonly associated with autism is the importance of routine, as seen in the inclusion of repetitive behaviours or rigid adherence to routines as one of the domains of autistic features in the DSM-V diagnostic criteria.⁵⁹ In my study, many of the practices in and around the farm enacted a **routinised autism** and were designed and performed to help maintain routines or mitigate instances where routines might be disrupted. This

⁵⁹ The feature is described in the DSM-V as ‘Restricted, repetitive patterns of behaviour, interests or activities, as manifested by at least two of the following: stereotyped or repetitive motor movements, use of objects, or speech; insistence on sameness, inflexible adherence to routines or ritualised patterns or verbal non-verbal behaviour; highly restricted, fixated interests that are abnormal in intensity or focus; hyper- or hypo-reactivity to sensory input or unusual interests in sensory aspects of the environment’ (Fletcher-Watson and Happé 2019, p.31).

version of autism was seen as stable, known, predictable, and rigid, but it was also more complex than that. The need for routines also suggested an autism that was fragile and vulnerable in relation to uncertainty and in need of protection from sudden changes or unexpected experiences and places. Hence, routines were developed and made from sets of activities and practices that happened in the same order at more or less the same time every day. They were also part of larger routines that held young people's days and weeks to the same regular patterns (i.e., students had a daily schedule including transportation to and from school; the class travelled to the farm every Wednesday).

These practices enacted an autism that needed stability and protection from uncertainty. Yet in relation to this routinised autism, the natural environment of the farm guaranteed neither, and here 'nature' was often seen as uncertain and dynamic itself. Going into such an environment was seen to be threatening, risky, and even counter-productive for this 'routinised' autism, as it could upset or disrupt routines. To prepare for the meeting of 'routinised' autism with this uncertain natural environment, daily routines were developed at the farm itself and objects like visual timetables and behaviour charts travelled with the young people to maintain individual practices and routines regardless of the environment. These practices could also be seen to provide some protection and comfort for staff members who themselves were also leaving more comfortable, known spaces and routines as they exited the classroom. As Amanda suggested in her interview, 'Maybe staff need these [inflexible routines] more than the young people.'

This enactment of a routinised autism, however, also existed alongside practices intended to introduce new experiences, disrupt routines, and provide a chance to become something new and yet unknown. A different, **emergent autism** was enacted by actively offering new opportunities, visiting new places, and doing different activities. These included setting progress targets involving and responsive to relations with the environment, invitations to try new food, walking in open spaces without guidance or restraint, eating in new places, and moving and working in an outdoor environment in new footwear. The trips to the farm were intentionally

pursued to offer new experiences that ‘deconstructed routines,’ in the words of Amanda, the main teacher, who also said:

It’s about exposing young people to as many different situations and as much change as possible but also hopefully limiting the very inflexible routines that have been imposed on them ... Actually we need to teach them flexibility because it’s a flexible world and change happens.

The ‘outside’ world and in particular this natural environment of the farm was again enacted in these practices as ‘flexible,’ dynamic and uncertain. In relation to this emergent autism, the natural environment of the farm was seen as an active participant in the encounter, offering dynamic weather and tactile and sensory interactions with natural things. Objects taken to the farm like waterproof clothes were needed in response to this environment – they were not things that were ‘carrying’ existing practices across spaces but were rather attuned to these new and emerging relations.

Here the farm environment also took on a nurturing role, akin to the ‘Nature as Teacher’ metaphor that Taylor (2013) described, where the experiences at the farm were educationally valued and seen to be beneficial to their development. Uncertainty here was constructed not as risk, but as challenge and educator, as supporter of the development of emergent autism. I found my own interactions also reflected this particular enactment of the natural environment, as I described and talked about the characteristics and qualities of the natural objects around us, as if learning *about* them was elemental to the learning experience (see Vignette 6.5). In this emergent version of autism and uncertain but pedagogic nature, the young people were seen to be ‘becoming’ in interaction with the natural environment, seen to develop in relation to it in yet unknown ways – by trying new things, practicing different activities, and even developing new routines.

This emergent version of autism was allowed to get dirty and change and grow, akin to Taylor’s (2013) figuring of ‘Nature’s Child,’ where children are naturally born in states of pure goodness and connections with nature, and where the natural

environment is seen to be the preferred pedagogue for these children. However, there is a difference in this version of autism in relation to Taylor's (2013) 'Nature's Child,' in that the practices and encounters I observed at the natural environment of the farm were also aligned with preparations to go into the outside world beyond school – and, moreover, into a socially-oriented world. Interactions with the natural environment of the farm could be seen as places to practice and prepare for other futures in social worlds, not as ways of childhood/youth development in alignment with 'Nature as Teacher.' In other words, this emergent autism was oriented to development related to the 'outside' world generally but not necessarily natural ones. The natural environment here provided a bounded, usefully uncertain and less social place to be in the 'outside' world, in which emergent autism could grow and become, but the encounter was not necessarily oriented to developing stronger relations and stewardship with the natural world in and for itself.

In the natural environment of the farm, these versions of **routinised** and **emergent autism** often co-existed. Certain practices and things tied them together. For example, the sets of waterproof clothing enabled new experiences and interactions but also protected bodies from dirt or carrying evidence of being in a risky, uncertain place. In so doing, they protected the version of a routinised, stable autism and allowed these different versions to 'hang' together. The visual timetable, PECS books, and behaviour charts that travelled to the farm maintained individually oriented routines (often via ABA practices) that aligned with certain developmental trajectories, even within a dynamic and uncertain farm environment where actual interactions and practices regularly evolved. It was in these objects and practices where 'partial connections' across multiple versions happened (Mol 2002).

This hanging together of different autisms suggests the potential for a more nuanced, flexible understanding of 'routines.' While going outside at times felt like a rebellious act, in the way that it challenged ideas of how to best support a routinised autism, it was notable that new routines were also formed in this new space – travelling on a bus, eating outside the classroom, dressing for the weather. While I observed a preference for routine and expected activity on some occasions, there

was also whimsy, variety, and the unexpected within routines. Ali pulled up dandelions, plucked and blew feathers into the sky and de-grassed my shoes. Alex walked and worked at the farm in different ways each time he went there, sometimes adhering to strict routines, other times deviating from them. Mo, when unrestrained at the farm, did not wander off as might have been expected but instead sat in the sun. There was certainly routine, but there was not unwavering sameness – bodies and brains developed; weather shifted; known staff members moved on and new ones started; fields morphed and seedlings grew. Even a ‘routinised’ autism was not exactly the same each time a practice or event happened, as it unfolded in response to a changing, uncertain environment. In this study, an ‘emergent’ and a ‘routinised’ autism ‘hung’ together then in different ways, sometimes ‘covering up’ an emergent autism in the face of a dangerous, uncertain world and other times developing new practices and routines that allowed young people to ‘become’ in uncertain places. These new routines themselves also enacted an emergent autism. In other words, there was emergence within routine.

In addition to the versions of autism described so far, others also became visible in the practices in this setting. Certain practices enacted an *extrasensory* or what could be called a *‘more-than’ autism*, in which Alex, Ali, Mo, and Tilly were seen to have different sensory experiences, embodied responses or ways of knowing the world that were interpreted in many ways as ‘more-than-human’ (Manning and Massumi 2014; Frigerio et al 2018). These qualities are often associated with autistic people, who are often characterised as having a unique sensing relationship to the material world (Haigh 2018), an ‘autistic perception’ (Manning, in Evans 2018), or ‘a kind of surplus, from showing too much interest and precociousness in the concreteness ... of the world’ (Frigerio et al 2018, p.396).

This extrasensory/‘more-than’ version of autism was enacted in my study in different ways and in relation to different versions of the natural environment of the farm. For example, the visits to the farm were seen as beneficial when an active and dynamic natural world provided stimulation and possibly therapeutic benefits for this version

of autism. As Amanda said in her interview, ‘The sensory experience of [trips to the farm] holds value ... the smells, the sights, the sounds, what they touch.’ This could also be seen in practices where young people were attentive to, touched or responded to the smells, feel, sights, and sounds of the material world. Enactments of this extrasensory/‘more-than’ autism were not regular parts of the learning activities per se but became manifest in off-hand remarks like that related to Alex’s hearing or what young people ‘know’ about the weather. These interactions were allowed, even encouraged, but only with certain versions of the natural environment as stimulating in therapeutic ways.

This version of autism as abundant could also be enacted as unruly when interacting with a more precious and economically valuable version of nature, as seen in Vignettes 6.9 and 6.10. In these encounters, autistic bodies were not seen to be discerning of the practiced categorisation of ‘social’ or economic value in relation to the natural environment. They were not ‘careful’ in the usually practiced ways of relating to things like plants at the farm. In these examples, an extrasensory/‘more-than’ autism was contained in practices that limited interactions with fragile, valuable seedlings and garden centre displays. This unruly autism was also contained via practices like ABA behaviour modifications and objects like school doors and locks inside the school and fences and gates to limit movement at the farm. Therefore, this extrasensory/‘more than’ autism was enacted in relation to the natural environment as one of excess in different ways – both in a unique connection and knowledge about a stimulating natural environment and also in its undiscerning and unruly interactions with a more precious natural environment.

In contrast to the extrasensory autism described above, a **deficient** or **‘less-than’ autism** was also visible in observed practices, in which certain human characteristics are enacted as invisible or missing. Descriptions of autism in both research and public discourse often emphasise disorder and deviance from typical development, often in relation to deficits of qualities, like theory of mind or social interaction (Milton 2012; Orsini and Davidson 2013). This deficit-based autism is itself produced out of the existence of ‘typical’ models of development as it is these normal

trajectories of development that are used to assess and diagnose autism (Burman 1994; Fletcher-Watson and Happé 2019). This deficient/'less-than' autism is described in terms of what is missing, including abilities to recognise, relate, and socialise in typical ways. Some characterisations suggest that autism has taken away an individual's 'typical' nature and is an abductor of more normal ways of being (Orsini and Davidson 2013). It is through this enactment of autism, indeed, that 'normal' and 'typical' development is also enacted – for, as Mol (2002, p.121) reminds me, to enact what she calls a 'disease' or bodily condition is 'also to enact norms and standards.' In education, interventions or 'treatment' of this version of autism focuses on changing the person to 'fit in with the mainstream' society (Milton 2012, p.883-884). And in my study, a deficient or 'less-than' autism was systematically and frequently enacted in practices that responded to these perceived deficits and attempted to 'normalise' young people's participation, shifting existing behaviours closer to 'typical' or 'normal' ones (Shyman 2016).

In relation to this version of autism, 'nature' was no longer enacted as a teacher or a 'prerequisite for healthy childhoods,' as is often presented to be the relationship between nature and children (Taylor 2013, p.61). 'Nature' was neither enacted as therapy nor 'treatment' nor even a welcome part of these young people's lives. Rather, they were regularly protected from it through things like walls, doors, fences, and wellies. The containment and normalising practices observed suggested that an outdoor natural environment could be a threatening place for young people who did not need to be more 'natural' or connected to that world. Rather, the desirable practices were those supporting them to be more 'normal,' 'typical,' and 'social' – 'functional skills' in the 'outside' world. Significant effort went into 'de-naturing' them, that is keeping clothes and bodies inside and 'immaculate.' The natural environment of the farm in relation to this version of autism was a disruption, almost a nuisance, to the routinised practices that were attempting to change this person and behaviour in rote, decontextualized ways. Its dynamism and uncertainty got in the way of such 'normalising' practices.

This deficit-oriented or ‘less-than’ autism was also sometimes enacted in exclusionary practices that presented young people as unthinking or unfeeling. For example, sensitive conversations about them were held within earshot without involving them. This production of autism seemed to assume a lack of receptiveness to social communication and interaction that ran counter to many instances I observed where they were very receptive to what was happening or being said. Such productions might align with an autism seen as a ‘trope for withdrawal into an isolated and impenetrable world’ (Solomon 2010, p.242), one that cannot be known, shared, or valued. Such ‘normalisation’ practices that enact a silent, invisible autism could be seen to de-humanise these young people by suggesting they are unthinking, unfeeling, or uncaring. For example, in containing some of their encounters with precious and economically valuable parts of the natural environment, they were enacted as unruly (as described earlier) but also perhaps unaware or uncaring about the importance of a plant’s liveliness.

These two versions of autism – an extrasensory/‘more than’ and a deficient/‘less than’ autism also co-existed and hung together in certain practices and through certain objects.⁶⁰ For example, ABA practices in this study were seen to work towards making young people ‘more typical,’ in the words of Amanda, the main teacher. But these normalising practices also enacted different versions of autism. The effort to contain Ali’s noises and habits used objects like the behaviour charts, and these charts themselves invoked a complex set of practices related to both an extrasensory and a deficient autism. The behaviour charts and the practices they carried tried to suppress excessive ways of interacting with the world by also using a sensory-based motivator to encourage that change – all the while enacting a ‘deficient’ autism that needed to change. In this study, these practices were used to both contain a ‘more-than’ autism (by supporting Ali to be more quiet) and also to

⁶⁰ I am not the first to suggest the co-existence of these different autisms. For example, in a book about his autistic son, Paul Collins (2004, p.161) wrote: ‘Autism is *an ability and a disability*: it is as much about what is abundant as what is missing, an overexpression of the very traits that make our species unique. Other animals are social, but only humans are capable of abstract logic. The autistic outhumans the humans, and we can scarcely recognise the result.’ Frigerio et al (2018) also explore this co-existence.

improve a 'less-than' autism (for example, by supporting Alex to verbally respond more quickly) – both in efforts to make both the body and the mind more 'typical' or 'normal.'

Rodogno et al (2016, p.402) suggests that while some such behaviours may be 'trained away,' the investment in doing so comes at a cost to other, and perhaps more immediately valuable, activities for the young person and may not actually be of long-term benefit. These ABA practices were based on assumptions that the best outcomes for autistic young people were in developing 'normal' and well socialised participation in future worlds – 'functional' skills that help people succeed in a certain area of behaviour (Fenton and Krahn 2007). At a simplistic level, these autisms were enacted and seen to be affected by mechanistic training practices that focused on the body and behaviour. And the practices that enacted this autism might be ignoring other important aspects of young people's own experiences or practices in the world, ones that are perhaps material, sensory or communicated in less-than-social but more-than-human ways. Furthermore, they did not account for the perennial uncertainty of the worlds that these young people would be moving on to.

Similarly, there was a complex relationship with these versions of autism as they co-emerged with the natural environment of the farm. The young people often demonstrated a deep interest and attention to the liveliness of the materiality in their worlds that did not 'naturally' draw my own attention but that young people enlivened for me. This natural world offered much of interest and value to the young people – for example, Ali's attention to floating fluffs of feathers, wood chips and slivers of grass and Tilly's tasting of raw onions and touching plants. Yet these practices instigated by young people were rarely sustained by others and were more often contained, dismissed, or ignored. The natural environment, at once stimulating and perhaps overwhelming, was at the same time seen to be disruptive to other, more 'normalising' practices.

8.3.2 Holding together multiple autisms

In examining these different versions of autism, I am gesturing towards an alternative way of considering autism – different to singular evocations where it is something that is held within an individual. Instead I have attempted to demonstrate how autism was enacted and came into being in relations between people and things in a particular environment. Looking at autism-in-relation has evoked a rich picture of multiple autisms that also prompts questions about how many versions there might be. Mol (2002, p.151) is helpful to return to here, in the way she describes how atherosclerosis ‘in practice appears to be more than one – without being fragmented into many.’ There were not infinite variations of autism observed here though those I describe above should not be seen as the only versions that might exist. Mol (2002) suggests that different enactments of entities are also situated, so different versions could be enacted in different places. Different situations, young people, settings and researchers may have enacted different qualities and versions of autism. The important point is that there can be different autisms enacted at the same time, some in conflict with each other even they while hang together.

In relation to this point, Mol (2002, p.72) also uses the phrase ‘patchwork singularity’ to describe how everyday practices and objects hold together different versions of the same body, the same phenomenon. For example, waterproof clothing and welly boots enabled an emergent autism to go outside while protecting a more stable, routinised version that kept parents and school management satisfied, which in turn allowed the outdoor visits to carry on. ABA practices relied on an extrasensory autism to motivate behaviour changes that simultaneously tried to contain it. Barry (2013) and Mol (2002) describe how doctors in Mol’s study of atherosclerosis coordinated multiple versions of the body through forms of collaborative practice – in order to maintain this ‘singularity.’ Similarly, in this study, different multiple versions of autism were held together through these objects or coordinated

practices to maintain some level of singularity among the versions that ultimately prepared for and allowed them to go into the outside world.

8.3.3 'Natural environment' as multiple and in relation

The different autisms described here – routinised, emergent, extrasensory, and deficient – were not mutually exclusive or contained simply in one setting. Instead, as described above, they shifted and emerged in relation to different environments, in turn enacting different versions of those environments themselves. So in this study the natural environment of the farm was also enacted in many versions -- as uncertain, dangerous, valuable, passive, positively challenging, stimulating, therapeutic, or as a teacher. Autism and the natural environment have been described in this study as co-emergent phenomena. In this section, I examine this further by considering what a 'natural environment' like the farm *became* in interaction with these autistic young people.

To do so, it is useful to return to existing conceptualisations of human-nature interaction, such as those suggested by Evernden (1985), who differentiated three types of relationships between humans and nature: *nature-as-object* (where it is seen as a resource for human use), *nature-as-self* (where humans are part of nature and responsible for its care) and *nature-as-miracle* (where we are enchanted and in awe with nature). Within the observations from this study, the relationship with the natural environment was predominantly one where nature was a resource for human use – '*nature-as-object*' – used for human food production or as a therapeutic provider. The farm relied on nature as a fertile producer, protecting and valuing soil fertility, delicate seedlings, and harvested crops. But the natural environment of the farm was also seen to provide a more therapeutic relationship, where the outdoors inherently provided health or educational benefits like the offer of 'sun therapy.' However, there was also a version of '*nature-as-self*' at the farm, where there were shared experiences of maintaining and caring for things in the natural world, like feeding the chickens and working the farm. Lastly, I also observed enactments of '*nature-as-miracle*' as young people themselves showed interest,

connection, and even enchantment at the natural things in the farm environment, even seemingly mundane ones like wood chips, dandelions, and wind blowing across Tilly's face. What this demonstrates is that such characterisations of nature-human relationships can be overly simplistic in assuming that humans and nature are mutually exclusive and do not recognise that such relations are co-emergent and mediated by many things and people.

Seeing these emergent relationships as complex and multiple attends to the different ways humans relate to the natural environment without essentialising these relations as purely therapeutic, risky, purifying and innocent, or sully (Conradson 2005). Rather, they emerge in relation to other entities – like autism and young people – that are themselves multiple and practiced in different ways. To return to Affrica Taylor's (2013, p.xiv) words: 'If only we could think beyond the exclusive, monogamous and romantic union of childhood and singular Nature, all manner of interestingly variegated childhoods, natures and cultures could be rearticulated.'

8.3.4 Autism in relation: troubling what it means to be 'human'

As suggested in literature, autistic accounts, and vignettes in this thesis, autism offers different ways of experiencing and perceiving the world (Grandin 2006; Williams 1998; Manning, in Evans 2018). Given this, some scholars have suggested that discussions around autism ask more fundamental, philosophical questions about what it is to be human in relation to the world (Murray 2008). Its characterisation of perceptual difference and 'deficits' around social interaction, understanding and empathy (Baron-Cohen 2003; 2006) most assuredly have also framed how a 'typical' human has come to be known.

In this discussion, I want to return to the concept of empathy, an influential one when conceptualising both autism and human-ness, and which has become more important to my understanding of what was going on at the farm over the course of

the study. Despite being notoriously hard to define, empathy⁶¹ has been described as ‘one of the most important of human characteristics’ (Baron-Cohen 2006, p.536). As McDonagh (2013) posits, such characterisations of empathy as central to being human, in tandem with the idea that autism is an ‘empathy disorder,’ de-humanises autistic people. This creates a division that simultaneously humanises and normalises the non-autistic experience. Such de-humanising dialogue is not uncommon to ‘broader discourse of disabled people as “less than,” a marginalised, stigmatised and patronised “other”’ (Von Benzon 2017b, p.244). Defining autism as deficient in such a fundamental way makes way for possibilities of disempowerment, discrimination, and unequal treatment and can lead to autistic people as being ‘labelled constitutively incapable of belonging to mainstream social institutions or cultural groups’ (Beck 2018, p.1312). As McDonagh (2013, p.48) states, the use of ‘autism as a test case for validating a concept of empathy ... succeeds only at the cost of creating new exiles.’⁶²

At the heart of ‘empathy’ and the related concept of ‘theory of mind’ are notions of recognition and reciprocity, and like many of the dominant debates related to autism, these tend to emphasise cognitive and neuroscientific qualities.⁶³ I want to argue, however, that equating autistic recognition, relations and reciprocity with only cognitive qualities and social empathy may miss out on other fundamental ways to relate to the world. Even those who fight attempts to ‘normalise’ autistic people’s ways of being do so with assertions of ‘*neurodiversity*’ and tend to focus on differences in ‘kinds of minds’ (Singer 1998). These remain human- and mind-centred discussions that often end up following the same biological/social,

⁶¹ As a reminder from discussion earlier in the thesis, empathy is associated with recognition and relation to others though is seen to be slightly different to theory of mind, as it is ‘not so much on the other’s state of knowledge as on the other’s situation, emotional state and needs’ (Waal and Ferrari 2012, p. 129).

⁶² This becomes ironic and troubling when considered alongside the idea of ‘double empathy’ (Milton 2012) – that autistic people are sidelined for not understanding certain mentalising behaviours when the same could be said for non-autistic people in return.

⁶³ Relatedly, Taylor (2010) discusses people’s reactions to her mother’s experience of dementia. She found that the deterioration of *cognitive* recognition (‘Does she *know* you?’) was the only factor many people asked about or considered relevant in discussing her mother’s condition. This narrow cognitive definition of recognition overshadowed other more social forms of recognising and being recognised as human.

nature/nurture, medical model/social model, cure/acceptance debates that have faced so much criticism and, more importantly, make little headway in debates around autism.

As shown in the vignettes in this study, these autistic young people often displayed a heightened sensitivity to materiality and sensation that may not fall along existing delineations of 'recognition,' 'empathy,' and 'care' that often prioritise human connections. They also provide a striking contrast to other characterisations of autism as deficient in empathy, disconnected, or isolated (as in Louv's (2005) use of the phrase 'cultural autism' to denote people's increasing distance from the natural environment). But other autistic writers also suggest these human- and socially oriented concepts are based on assumptions around shared meaning and understandings that are not necessarily the case (Sinclair 1993). Milton (2012, p.884) explains this disjuncture, in relation to notions of empathy:

When ... [a concept like] empathy is applied toward an "autistic person" ... it is often wildly inaccurate in its measure. Such attempts are often felt as invasive, posing and threatening ... especially when protestations to the contrary are ignored by the non-AS person doing the "empathising."

As suggested by Manning and Massumi (2014, p.4), what is often understood to be an autistic disconnection with (social) relation could be seen differently, as 'an engagement with the more-than-human' that does not differentiate or prioritise the social relationships. Autistic people instead, Manning (in Evans 2018) suggests, may experience 'richness in a way the more neurotypically inclined perception rarely does.' Returning to discussion in the literature review around children and young people's connections with natural environments, such relations with natural worlds are seen to be desirable, worthy of pursuit, and important to human identity and empathic behaviour (Mayer and Frantz 2004). But that was not always the case in this study, where 'functional' skills and behaviour changes were often seen to align more with participation in social worlds than material or natural ones.

This discussion raises other important questions. If autistic people often have a stronger affinity for the materiality of the world or less differentiation between the social and material aspects, then why not see both as worthy ways of interacting in the world? What if recognition, awareness, and development were valued as multi-sensory, tactile affairs where more than just humans are also present? Were autistic people just 'neuro'-diverse or might there, for example, be a case for considering more how they were 'sensory'-diverse as well? McDonagh (2013, p.36) suggests something similar, asking if "empathising through one's senses" might also count.' If the 'social' is seen as one that is actively shaped by and shapes the material world as well, this may allow for a better understanding of the multiplicity of experience. What if we mapped relational trajectories rather than individual pathways? Such an emphasis could notice, recognise and value other human ways of being and becoming in the world, as well as enliven the material things in these entanglements. Might such an 'autistic' connection to nature – that does not differentiate between the social and the natural worlds in the same way (Manning and Massumi 2014) – be worth paying more attention to?

8.4 Considering pedagogical practices when autism goes outside

This discussion so far has shown what practices were observed in the natural environment of the farm and how these enacted different versions of autism and the natural environment. I now consider what these might mean for educational practice and pedagogy.

The opportunities afforded by a natural environment are not guaranteed effects of simply being in the fields, in the woods, or in this case at the farm. Conradson (2005, p.338) reminds us to be critical of the idea that natural environments have 'intrinsically therapeutic properties' or inherently generate positive experiences.

There are many ways of being in the natural environment, and not all are productive, calming or pleasant. Others are anxiety-provoking, uncomfortable, and annoying – and sometimes different ways are produced at the same time. This study suggests that the practices related to education and pedagogy here were comprised

of interactions not just between students and teachers but also through encounters with the environment and its materiality. Other literature on educational and pedagogic approaches related to autism tend to focus on an individual's development without significant attention placed on the environment where it happens or the materiality of the experience (Shyman 2016). In what follows, I propose a shift in attention from an individual's cognitive development to their emergence in relation with dynamic and uncertain material and social worlds. Taylor and Pacini-Ketchabaw (2015, p.515) suggest that such relational, materially minded pedagogies might 'exceed the logic of developmentalism' when an individual 'acquires age-appropriate knowledge in the process of becoming rational and autonomous' and may instead explore ways of becoming and learning together in relation and valuing other ways of being in the world.

8.4.1 Paying attention to sociomaterial relations

As demonstrated in many of the vignettes in this thesis, I observed and identified instances of young people's interactions with the materiality and things in the natural environment of the farm. Noticing and paying explicit attention to the things and materiality enabled me to recognise what drew their attention and what they connected with. The practices of young people like Ali and Alex touching, feeling, and sensing the material world were their ways of participating in the world and opened opportunities to learn about them, the environment, and the relations between the two. For example, by paying attention to the places Mo or Tilly sought and responded to or what Ali chose to touch and what he did with the objects, I learned about the relations they had with the material world and noticed that world in new ways. My own attention to the materiality of that world shifted as I became aware of things I might not have, in turn making me more aware of the farm environment in relation to these young people. What might happen, I wondered, if learning experiences started with, included, and responded to the connections these autistic young people made and their relations with the material world of the farm environment? Such provocations align with arguments from autistic people like Jim Sinclair (1993), who appealed for considerations of autism that do not focus on

perceived deficits and are not about 'mourning for what never was, but *exploration of what is*' (my italics).

Being attentive and responsive to sociomaterial relations resonates with notions of 'place-based' education. Like others before me, I recognised in this study that educational activities happened in ways that were reciprocally connected to the places where they occurred, in which the 'place' co-created the experiences within it, itself being further shaped in those events (Mannion et al, 2013; Wattchow and Brown 2011). Furthermore, this study demonstrated how experiences in a natural environment were not bound within that environment. They were instead woven across practices that moved in and out of these places, as demonstrated in the important role that preparation played in the outdoors experience. Having knowledge of young people and the place they visited – along with recognition that such knowledge was partial and evolving – enabled these experiences to happen. However, the practices observed in and around the farm also demonstrated the fragility and uncertainty of existing knowledge and relations with changing places and the importance of acknowledging this through flexible, responsive pedagogy. What was known about the farm and the young people remained porous and evolved throughout the field work. There were many instances in this study where knowledge was fragmented – of young people themselves, of the outdoor environment, of the staffing expectations, of the possible future activities and trajectories of the staff, of the farm.

A sociomaterial pedagogical approach I am beginning to outline here foregrounds material as well as social relations within a dynamic place and relates to the 'place-responsive' pedagogy suggested by Mannion et al (2013) in its need for flexibility and contingency planning in response to evolving places. Such an approach would also have implications for other aspects of education. If the individual is seen to be part of a network of relations, what does that mean for the recognition of learning? An attention to relations sees individuals as developing in interaction with their environments, not as separate from it. Fenwick et al (2011, p.6) elaborate: '[sociomaterial approaches] understand human knowledge and learning in the

system to be embedded in material action and inter-action, rather than focusing strictly on internalized concepts, meanings and feelings of any one participant.’ This further affects notions of progress, in perhaps trying to examine how relations change and develop as much as how a single individual does. We can begin to glimpse what this might look like from examples in this study, when young people’s progress specifically targeted these relations – for example, Mo’s individual target was to walk unaided on different terrain and around the grassy field, a changing relation with the soil and grass and itself an evolving thing. Such a relational approach also disrupts notions of ability/disability as held within an individual, instead seeing them as qualities of relations (Winance 2016).

Such ways of framing and recognising learning move away from trying to quantify behaviour regardless of the relations that enact it to seeing the person-in-relation. From this perspective, an approach like ABA which aims to change behaviour consistently across (and in some way regardless of) context and place appears at best ineffectual, at worst misguided. Instead, an approach that considers individuals to be part of a network of relations and considers learning as the development and changes in those relations may support a more inclusive and nuanced consideration of what educational experiences are for young people like those in this study. It could, for example, allow for practices that encourage and make space for other ways of knowing and becoming in the world. As Beck (2018, p.1322) advocates, those who work with autistic people ‘must work tirelessly to foster sociomaterial spaces where unconventional modes of expression are engendered and engaged supportively, *on their own terms*’ (my italics). He goes on to suggest that this could ‘be understood simply as empathy’ (ibid). Paying attention to the qualities and endurance of these sociomaterial relations – for example, what drew the attention of Ali or how Alex, Mo, and Tilly connected with and learned alongside certain aspects of the world – rather than focusing on how an individual’s behaviour is different could acknowledge and value multiple ways of connecting to the world.

8.4.2 Shared relations in uncertain worlds

The preceding discussion on pedagogical considerations is also situated in wider questions raised by Mol (2002) in her study around what and how practices should be done. While Mol's study focused on understanding how atherosclerosis was multiple in practice, it also provoked questions about how 'the body multiple ... might be done well' (ibid, p.7). Instead of seeking to find 'truth,' a difficult proposition within the necessary uncertainty of a relational ontology, she suggests a seeking out of practices of 'goodness' and asking, 'Is this practice good for the subjects (human or otherwise) involved in it?' (p.165). She, however, does not answer that question specifically around practices of atherosclerosis in *The Body Multiple*. Nor is judging the 'goodness' of educational practices the aim of this thesis.

But, there are value-based, ethical questions that are also entangled in this study, and its doing provoked questions about what 'good' relations and practices in these young people's educational experiences might be. Other scholars have also considered what such relations might be, particularly in thinking about pedagogy and encounters with the more-than-human world (e.g., Tsing 2015; Bellacasa 2012, 2017; Berry et al 2018). Tsing (2015), for example, suggests that we should 'pay attention' to relations and how we practice care with those we encounter.

In the final section of this discussion, therefore, I begin to explore what a sociomaterial, relational approach may mean when considering human relationships with the natural world. This study comes at a time when there is a general concern that children and young people are becoming more disconnected to the natural world, spending less time in it while becoming saturated with information or representations in the media (Louv 2005; Taylor 2013). Time spent in or connections to natural environments are seen to have potential positive implications for the individuals involved, but also on stewardship and care for natural environments more broadly (Dillon and Dickie 2012; Whitburn et al 2019). The encounters observed in this study and ensuing discussion in this thesis has provoked questions

for me on what practices might be 'good' for both the humans and the things in the natural world.

Bellacasa (2019) also ponders these questions in her writing about soil. She considers how relationships with natural elements like soil might shift from being focused on 'agricultural or industrial value' to 'new ecological cultures of care for the non-human world' (ibid, p.392). She suggests that a way to do this might be to find a shared commonness, a sense of shared aliveness. In this study, Ali and Tilly in particular were drawn to natural elements like soil, wood, plants and weather in their different permutations. Mo and Alex moved about the environment, connecting with its materiality in particularly attentive and responsive ways. Given this attentiveness to materiality and turning back to earlier discussions about how autism troubles notions of 'humanness,' I argue not for a 're-humanising' of the debate on autism but instead for a 're-materialising' that would de-centre the dominant focus on humans altogether. This might disrupt existing ideas of 'typical' development of separate individuals in discrete settings and instead shift attention from how autism is talked about to how it is practiced and done.

We might do this, asserts Wilson (2019, p.30) when 'we pay attention to the nature-human relationships that are co-created in a natural environment.' This relational way of 'paying attention' has also been characterised as 'thinking with' in contrast to 'thinking about.' Pacini-Ketchabaw (2013, p.358) illustrates this by asking, 'What if forest pedagogies are not so much about learning about forests, but thinking with forests?' Berry et al (2018, p.53) draws upon Stengers' work (1993) and extends the idea to social and material relations, suggesting that '*thinking-with* calls us to come together in relation as opposed to falling apart in differences.' While I'm in alignment with the relational proposition being made, I would challenge the suggestion of 'thinking with' forests, nature, or others. While it is a shift in what might be usual ways of relating to/thinking about the world, it still prioritising 'thinking' and metaphorically relating *via cognition*. It could also be difficult to imagine thinking like a tree or a forest in the same way it may be difficult to imagine thinking 'neuro-typically' if you are autistic or vice versa. I suggest there may be

other ways to describe this relationship, ones that are more materially, sensory, or embodied considerations. Perhaps it is through *doing shared activities with or practicing with* other people and things in these environments where a different sort of relation, even ‘empathy,’ can begin to develop. It is, perhaps, as Berry et al (2018) suggest, mutual entanglements that enable relationality in practices, that shift us from an examination of what it means to be different to one that wonders what we can do ‘because we are different’ (Grube 2012, p.41). This sociomaterial relational approach to pedagogy also aligns with ideas about sustainable, ecological relations with the natural environment more broadly and re-inhabiting places in ways that ‘improves the social and ecological life’ of them (Gruenewald 2003, p.7). Maybe we just need a little more practising together.

8.5 Summing up the discussion

In this study and for the people and things in the post-16 class at Ashdown School, going outside to the natural environment of the farm was a complex affair. It was highly managed and freeing; routinised and precarious; rebellious and also ordinary. This thesis has shown how practices in and around the farm provided opportunities to recognise and enable autistic young people’s own ways of becoming and knowing. But this did not always happen and did not happen ‘naturally’ by virtue of simply going outside. Going outside was also an uncertain affair, confounded with anxieties of families and school staff, complex human bodies, the materiality of the natural world itself, and the presence of multiple anticipated possible futures. But from what I have observed it was an important activity. Going to the farm created opportunities for these autistic young people to be visible in ordinary spaces, in the process showing that places could accommodate encounters with them. It also opened up chances to practise new practices in incrementally evolving places and fostered staff-student relations through shared, simultaneous experiences.

Understanding these experiences through an examination of sociomaterial practices and relations – rather than seeing ‘autism,’ ‘young people,’ and ‘nature’ as singular and stable things – helped show them to be dynamic and mutually co-constitutive. It demonstrated how multiple versions of autism emerged, sometimes hanging

together and other times conflicting, in relation to different versions of a natural environment. This approach accommodated rather than sought to control the uncertainty of relations with a dynamic world. Pedagogical practices that are attentive to the relations with material and social aspects of the world have the potential to recognise the vitality and aliveness of both the people and materiality of a place, particularly important for young people like these who were moving on to uncertain futures. As in this study, practices that disrupt more static or routinised versions of autism also provide opportunities and 'alternatives to a dominant reality' (Postma 2012, p.144-145). This study has provided some glimpses into how regular experiences in an outdoor natural environment and these types of practices might support these transitions and new practices entangled with outside worlds.

From this study's very focused empirical look at what happened when four autistic young people and their class spent time in an outdoor natural environment, I suggest that paying attention to materiality is vital in understanding these experiences. A focus on simply the social or human world would have missed out on much that happened. The sociomaterial approach adopted here contends that humans are produced through interactions with the world and that world changes in those interactions too. For Western educational contexts, this requires a shift from a focus on developing 'rational autonomous beings' (Le Grange 2013, p.111) to one that provides a chance for, as Biesta (2006, p.62) says, 'individuals to come into presence' – that is, how they become, how they are produced in relation to others.

Looking at autism-as-relation, as I suggest, has the potential to move us from a focus on the deficits of human 'beings' to consider what is possible about human 'becomings' as they relate to the other people and things in their worlds. This aligns with notions of childhood and youth that see young people as well as adults as 'becoming' rather than fully formed, agentic 'beings' (Lee 2001; Gallacher and Gallagher 2008). They become in relation, but these relations are also uncertain, hybrid (Lee and Motzkau 2011), and indeterminate (Hollin 2017). This prospect of perennial uncertainty might seem scary and provocative when deemed 'unstable' or 'unpredictable' and this may especially be the case for people who often face

exclusion or discrimination. But it also makes these relations productive and gives them possibility. Indeed, this study troubles what it means to be human, empathetic, and able, and also what it means for environments to be accessible, manageable, or welcoming. And in so doing – for it is itself ‘an intervention’ (Mol 2008, p.84) – I hope that it opens up new possibilities for attentiveness and relations among both human and the more-than-human in encounters in the outside world.

Chapter 9: Conclusions, limitations, and possible futures

9.1 Introduction to Chapter 9

This study has developed alongside contemporary academic and public debates about autism, nature, and childhood/youth in unintentional but perhaps opportune ways. Environmental crises that implicate our human relationship with the natural world now sit at the forefront of public attention like never before. Autism is likewise prominent in public and academic debates in ever-increasing ways. Such rapt attention provides an opportunity. As Bolte and Richman (2019, p.3) state, ‘This is a promising time to look ... at autism because *what autism is, how people come to be autistic* and *what to do about it* are all contested. Choices are still being made about how to think and talk about these basic aspects of the field’ (my italics). In this study, I have looked at *what autism is* and *how people come to be autistic* in their relations with both material and social elements of their worlds. I have examined *what to do about it* by considering what practices enact autism and how these might be (re)done by paying attention to autism-in-relation. I have also looked at what these understandings around autism might mean for re-examining wider human relations with the material and ‘natural’ worlds. In this final chapter of the thesis, I summarise the main contributions of the study, recognise limitations of its findings, and suggest questions it has raised that warrant further investigation.

9.2 What this study contributes

In this research, I aimed to understand *what happens when autistic young people are supported by schools to spend time in the natural environment of a farm and how autism is enacted in and around that environment*. By relating my findings to other knowledge in the field, I suggest this study makes the following contributions:

- This research provides a *detailed ethnographic study of autistic young people’s school-enabled experiences in a specific outdoor natural*

environment. From my investigation, this is a unique empirical study in how it examines what actually happened when autistic young people spent time in the natural environment, an area that is currently under-researched (Blakesley et al 2013). I have provided a fine-grained account of the *practices* that happened in these environments, which goes beyond much current research that contains autism as a 'savant ability' or a 'disabling impairment' (Solomon 2010, p.253) or examines the subjective experience of a bodily phenomenon, as do many sociological accounts of disability (Williams and Busby 2000). It provided instead an example of how a study of sociomaterial practices could be valuable in research around autistic experience. Attending to the materiality allowed me to be alert to the richness of the encounters that might otherwise be obscured by primarily paying attention to humans, voice, and language, which was particularly relevant for young people in this study who did not regularly communicate verbally. This made more visible young people's own ways of encountering the world.

- This study also argues that the phenomena of '*autism,*' '*young people,*' and '*nature*' are emergent and relational. As my primary area of focus was on autism, I suggest that 'autism' is neither biologically determined nor socially constructed, and ultimately not a discrete, internalised characteristic of an individual. It can instead be understood as autism-in-relation where autism is enacted through sociomaterial practices and emerges in relation to places. In addition to being understood through its relations, I also suggest that autism can be seen to be multiple. This is different to the commonly held view of autism as heterogenous or diverse between or within individuals. Rather, I argue that multiple versions of autism may co-exist in relation to a single place, with the same people, and be enacted by different practices. Recognising this multiplicity disrupts dominant accounts of autism as an internalised individual deficit and suggests alternative autisms are possible.
- From this study I have proposed that being attentive and responsive to how autism is differently enacted in dynamic, uncertain environments might enable relations and practices that encourage visibility and flexibility for autistic people in some natural environments and the 'outside' world. I argue

that these *pedagogical practices attentive to sociomaterial relations could support and value autistic students' own ways of knowing and becoming.*

Paying attention to sociomaterial relations in certain places could help foreground the importance of the material world, seen to be valuable for the autistic people such as those in this study.

9.3 Reflections on becoming a sociomaterial researcher

This empirical study aimed to better understand autistic young people's experiences in a natural environment, but part of its research contribution is also in my doing of it. Mol (2002, p.151) said this about her ethnographic account of the body: 'Like any other representation, [it] is part of a practice, or a set of practices.' In the following section, I describe what it meant to initiate and be part of the practices in my study and in particular how it has shaped my understanding of autism and relating to the natural world.

I did not begin this research as a sociomaterial researcher and I am still working through the implications for both my research practice and my way of understanding autism. I started this research project with a well-practiced humanistic conceptualisation of research and education, and the legacy of this conceptualisation is seen in the still human-dominated focus of the study. I am not alone on the journey of trying out these emerging sensibilities and methodologies, as recently described in thoughtful reflections by Taylor and Pacini-Ketchabaw (2015), Grant (2017), Hultin (2019), and Ruck and Mannion (2019). Like Taylor and Pacini-Ketchabaw (2015, p.514), I found the attempt to keep a material sensibility 'extremely hard work' and 'never fully achievable.' But this tension was also productive, for it provided me an opportunity to develop new sensibilities and sensitivities to my own world.

What I have done is an ethnography of autism. But I have done it with my own body and my own history of experience and knowledge about autism, grass, seedlings, young people, onions, and chickens. These played a part in the practices and relations I saw, in how I sought them out, observed and interpreted them and also in

how they re-emerged in writing this thesis and the vignettes on these pages. In the doing of this research, I have never been separate from it, and the effort of considering relations between autism and the natural environment was deeply intertwined with me as researcher. I have been, as Bellacasa (2019, p.392) writes, 'involved in a form of critique that inevitably entangles my stance with the effects of the researching worlds I care about.'

My own experience of autism – and equally my lack of experience of autism – clouded what I saw the phenomenon to be, but it was also this I disrupted and re-produced as much as anything. I consider myself a non-autistic person who tried to understand sociomaterial practices by following, witnessing, and sometimes sharing the attention of autistic young people. It proved impossible to observe the encounters without responding with some level of emotion, thought, or judgment connected to my own past relations. But the focus on paying attention to sociomaterial details and practices provided some distance for me as a researcher, allowing me to focus on what was happening rather than on my emotive reactions or my prior assumptions about human agency. This slight distance offered me a chance to reflect on what I observed and asked me to challenge my own assumptions about autistic lives and how humans might relate to natural environments – my attempt at what Rodogno et al (2016) called 'epistemic humility.' This is not to suggest that I was able to (or tried to) separate my own experiences and values from my participation. On the contrary – the distance at times left me feeling conflicted, as when practices or encounters I observed were at odds with my beliefs around education or my own sensory experiences, for example.

By adopting a sociomaterial perspective, however, I observed and attempted to describe different ways of relating to the people and things in the world. And the acts of practicing this sociomateriality shaped me as I shaped it. I have not just enacted new understandings of 'autism' for myself but also recognised different ways of knowing and relating to the world, thereby shifting my own. In sharing moments with young people like Alex, I wondered what the lights sound like. In standing alongside Ali and sharing his moments of attention, my own have changed.

I do not look at feathers the same way anymore, now instead patiently watching them as they float in the air.

While these shifts in attention to relations have been enriching, the process can also be unsettling. I return again to Mol (2002, p.165), who says: 'After the turn to practice we confront another question. How to live with doubt. It isn't easy.' Disrupting assumptions about phenomena, raising questions about the reality of 'things' that I have long understood in essential, humanistic ways, and living with ideas of perennial uncertainty can feel overwhelming. But Mol reminds us that within this approach, 'we can still act' (ibid). Indeed, the uncertainty can also be productive. It acknowledges the co-emergence of entities rather than assumes their stability and static relations with each other. In this study, looking at the small changes and dynamism within the practices that enacted autism acknowledged an uncertainty of relations – that everyday encounters with the soil, a plant, the wind, or a small feather were dynamic and evolved. This uncertainty keeps open possibility (Mol 2002, p.161-4), and it also suggests that we are all able to shape relations. It is not saying that anything is possible but that something different to what is now is possible. From a sociomaterial and relational framing, some enactments of autism in a natural world hold stronger than others, but they are also potentially fallible, uncertain and porous to some degree.

9.3.1 Considering ethics from a sociomaterial perspective

Taking a sociomaterial approach in this study also opened up new and challenging ethical questions. Many research ethics frameworks are grounded in humanistic terms and 'natural' emotional reactions to human behaviour and considerations on how people should act (Bolte and Richman 2019). What did it mean to take a sociomaterial or posthuman approach to ethics and, moreover, one that involved people and things who may have very different perceptions and experiences with the world? At one level, not much changed from ordinary research processes, as the university ethics board still required consideration of a standard set of ethical issues centred on participants' rights and ensuring the research did no harm to human participants. Little attention was explicitly paid to the non-human ones.

Where a sociomaterial approach did affect ethical considerations was during processes like seeking consent from participants. Recognising the importance of the material world for young people in this study encouraged me to develop more materially minded mechanisms to support processes of consent or dissent – particularly important opportunities for disabled young people who use different communication methods and can be accustomed to being acquiescent (Rodgers 1999). A sociomaterial framing recognises concepts like consent as relational between social and material elements (me, words, paper, students, environment), rather than solely a psychological process or decision made within an individual's mind. As Harris (2003) and Nind (2008) argue, formal consent processes often position consent-related decision-making as a set of psychological, sequential processes in the mind that do not reflect the actual, situated, and emergent process of an individual in interaction with other people – and, I would add, other things. This required me to be more thoughtful about how these different relations offered choices that the young people could opt into or out of and developed a strong case for consent practices that are ongoing and work beyond a single, formalised letter and signature.

Another emerging ethical consideration I encountered was the importance of the research site and the role of the 'places' where the study happened. Von Benzon (2017a) and Horton (2008) discuss how the messiness and unpredictability of the world can disrupt a pre-existing static approach to ethics, and that different places might enact different disruptions. I experienced this in the doing of the study, recognising that different places enabled different practices and relations that also required evolving ethical considerations. This was most salient for me in my own participation in practices at the farm. It was at the farm and often through the conduit of material things that I interacted most directly with young people, and these sometimes felt risky when they involved hand saws, open spaces, and unruly bodies. I appreciated that providing opportunities to take risks and try new things was an intentional part of these outdoor encounters, but there was tension between supporting these practices and adhering to my own research principles to 'do no

harm.’ I did not always successfully manage this balance, as seen in times when I commented on or encouraged young people’s interaction with parts of the natural environment they subsequently got asked to stop or were reprimanded for, as when Ali was picking grass to throw in the chicken coop (see Vignette 6.6). But such encounters reiterated the consideration of ethics as situated, contextual, and the importance of accounting for materiality in these decisions.

9.4 Limitations of the study

Ethnographies come with inherent limitations. They produce one certain account from what a particular fieldworker – in this case, me – learned in a particular setting and through the researcher’s methodological choices (Van Maanen 2011). I set boundaries on what I did and did not observe, how far I followed the young people, and how I represented these encounters in writing. I also entered a field where many practices were already in place, meaning that it was difficult to gauge at first what was a sustained practice, what was a new one, how they shifted, and my own role. Furthermore, autism is, as Mol (2002, p.178) stated about atherosclerosis in her own study, ‘not the only phenomena enacted ... there are many more: sex difference, age ... and so on.’ As a result, I provide here a partial picture of four young people and their class on their visits to the farm, and I do not attempt to apply the findings further than this situated account.

But findings from a detailed sociomaterial study like this are not meant to be generally applied across different contexts – they should instead ‘tell us something new that makes application difficult or problematic’ (Barry 2013, p.417).

Furthermore, a widening of this study either in terms of numbers of participants or scope of observation would also have sacrificed the depth of detail that I was able to observe in limiting it to four young people in and around a single natural environment. The approach I took was intentionally limited to provide a fine-grained look at the practices in a situation previously unexamined. Research using sociomaterial approaches is ‘an enactment of knowing-in-being that emerges in the event of doing research itself’ (Taylor 2016, p.18), so while the methodological

specificities will not necessarily be transferrable, they may well offer insights to others also navigating this approach. I know I highly valued the methodological reflections of many including Mol (2002), Sørensen (2009), Fenwick et al (2011) Grant (2017), Hultin (2019), and Ruck and Mannion (2019) – and I hope this study may offer those doing research in the future some camaraderie too.

9.5 Future avenues for research – sensory-based methods

While doing this study I have also reflected on possible future studies. In terms of methodologies, I recognise that more specific sensory-based ethnographic methods may have been useful in deepening my understanding of the sensory encounters and relations that I observed. While the influence of these sensory relations was not the original focus of the study, it became more prominent as the research progressed. I found this in reflections on my own observations and the dominant role the visual sense took, even when trying to attend to wider materiality. For example, when I said to Alex that he was observant in the school hall in Vignette 7.6, I meant that he was visually aware, noticing the lights and watching the world around him. I hadn't considered he might be *hearing* the lights.

What may therefore be useful is a different sensory recognition and widening of observational methods to incorporate a range of senses. Attention to the senses has been part of other ethnographic approaches,⁶⁴ and it can offer 'a whole new realm of ... understanding and interpretation' (Robben 2012, p.443). Pink (2015, p.53) has also written extensively around sensory ethnography, a methodology that is committed to an understanding that the 'senses provide a route to forms of knowledge and knowing not accounted for in conventional forms of ethnography.' More recently, Alper (2018) used these methodologies to connect to autistic young people and neurodiversity. Applying these methodologies to examinations of autistic young people in natural environments could be useful in different ways – challenging the dominant modes of visual and verbal representation of autism; unravelling

⁶⁴ And it has also been considered more broadly in anthropological approaches, as discussed in Solomon (2010).

singular ways of conceptualising autism (and accompanying rigid ways of ‘treating’ it); reflecting the heterogeneity and multiplicity of autistic lives; and reshaping debates about ‘ability’ and ‘disability.’ These would also support recognition that ‘there are other and diverse ways of knowing and especially of knowing ethnographically’ (Vannini 2015, p.319). I am heartened to know that other more-than-human ethnographies with similar considerations have also begun to spring up in recent years (Pacini-Ketchabaw et al 2016; Vannini 2015; Taylor and Pacini-Ketchabaw 2015).

9.6 Future avenues for research – futures of autistic young people

Education is a future-oriented practice, and the spectre of the future was woven throughout the practices in this study. For example, there was anticipation for what might come in the day’s routines; how the seasons would play out in the development of crops at the farm; where young people would go when they finished post-16 education at Ashdown School. While this study has hinted that enactments of autism are influenced by wider productions of futures – young people’s futures, autistic futures, and those of the natural environment too – it did not tackle this framing full on, partly because this angle of analysis became more prominent too late in the study to be given sufficient consideration. There is, however, much to be considered here in relation to fields of anticipation and futures studies, in how our day-to-day practices bear different possible futures and anticipations. As Tavory and Eliasoph (2013, p.909) suggest, ‘Modes of future coordination merge, detach and interlace in everyday interaction.’ The different versions of autism, for instance, conflicted in their anticipation of different possible futures, and those different futures posed a number of questions that deserve more attention. What futures are enacted by different autism-related practices? How might relations or pedagogical approaches within a natural environment influence and shape these futures? What practices can support futures where autistic young people are visible and can flourish in their own ways of knowing and becoming in the world? And, in relation to future research, how might study design attend to different ways of knowing, participating, and being in the world, through use of different methods and

increasing participation of autistic people in its doing? (Fletcher-Watson and Happé 2019).

9.7 Summing up this research

Autism research is entering a 'new era' (Pellicano et al 2018, p.82), where epistemic authority is uncertain. Different fields provide evidence based on different models of autism and different ways of studying, knowing, and understanding it. This study certainly does not claim that continuing to pursue these different models is not useful. What it does suggest is that understanding autism *in practice* and *in relation* is also valuable. There is much in flux in relation to the biological aspects, causes, and realities of autism (Hollin 2017; Fletcher-Watson and Happé 2019; Orsini and Davidson 2013). But a move to understanding autism in its everyday relations and through its situated practices in the world makes space for another valuable way to understand this phenomenon. Rather than conceiving of it as something a person *has or is diagnosed with*, it becomes recognised as something that is *enacted in practice*. And along with this recognition comes notions of possibility – practices, after all, can hold, change, and develop anew. Alternative autisms become possible.

References:

- Alderson, P. (2014) 'Ethics,' in Clark, A., Flewitt, R., Hammersley, M. and Robb, M. (Eds) *Understanding Research with Children and Young People*. London: Sage Publications.
- Alderson, P. and Morrow, V. (2004) *Ethics, social research and consulting with children and young people*. Barkingside: Barnardo's.
- Alderson, P. and Morrow, V. (2011) *The Ethics of Research with Children and Young People*. London: Sage Publications.
- Ali Z., Qulsom, F., Bywaters, P., Wallace, L., and Singh, G. (2001) 'Disability, ethnicity and childhood: a critical review of research,' *Disability & Society*, 16 (7), pp. 949-968.
- All Party Parliamentary Group on Autism (APPGA) (2017) *Autism and education in England in 2017*. Report for the APPGA. Available at: www.autism.org.uk/held-back/appga-autism-and-education-report.pdf (Accessed on December 15 2018).
- Alper, M. (2018) 'Inclusive sensory ethnography: Studying new media and neurodiversity in everyday life,' *New Media and Society*, 20 (10), <https://doi.org/10.1177/1461444818755394>.
- Arnold, L. (2010) 'Participatory and Emancipatory Autism Research: What's the Problem?' Science 2.0 article. Available at http://www.science20.com/ethical_autism_research/participatory_and_emancipatory_autism_research_what%E2%80%99s_problem (Accessed on September 20 2018).
- Ashby, C.E. (2010) 'The trouble with normal: The struggle for meaningful access for middle school students with developmental disability lab,' *Disability & Society*, 25 (3), pp. 345-358.
- Baio J, Wiggins L, Christensen DL, et al. (2018) 'Prevalence of Autism Spectrum Disorder Among Children Aged 8 Years — Autism and Developmental Disabilities Monitoring Network, 11 Sites, United States 2014,' *Surveillance Summaries*, 67 (SS-6), pp. 1–23.
- Barnard, J., Broach, S. Potter, D., and Prior, A. (2002) *Autism in Scotland's schools: Crisis or Challenge? A report for the NAS*. Available at <https://www.scottishautism.org/about-autism/strategy-policy-and-initiatives/autism-policy/autism-scotland%E2%80%99s-schools-crisis-or> (Accessed on May 13 2019).
- Barnbaum, D.R. (2008) *The Ethics of Autism*. Bloomington: Indiana University Press.

- Barnes, C. (1996) 'Disability and the Myth of the Independent Researcher' in Barton, L. and Oliver, M. (Eds) *Disability Studies: Past Present and Future*. Leeds: The Disability Press.
- Baron-Cohen, S. (2003) *The Essential Difference: Male and Female Brains and the Truth about Autism*. New York: Basic Books.
- Baron-Cohen, S. (2006) 'Empathy: Freudian Origins and Twenty-First-Century Neuroscience,' *Psychologist*, 19 (9), pp. 536–37.
- Baron-Cohen, S., Tager-Flusberg, H. and Cohen, D.J. (Eds) (1994) *Understanding other minds: Perspectives from autism*. New York: Oxford University Press.
- Baron-Cohen, S., Scott, F., Allison, C., Williams, J., Bolton, P., Matthews, F.E., and Brayne, C. (2009) 'Prevalence of autism-spectrum conditions: UK school-based populations,' *The British Journal of Psychiatry*, 194 (6), pp. 500-509.
- Barry, A. (2013) 'The Translation Zone: Between Actor-Network Theory and international relations,' *Millennium – Journal of International Studies*. 41: 413.
- Bastian, M. (2009) 'Inventing Nature: Re-writing Time and Agency in a More-than-Human World,' *Australian Humanities Review: Ecological Humanities Corner*, 47, pp. 99-116.
- Batten, A. (2005) 'Inclusion and the autism spectrum,' *Improving Schools*, 8 (1), pp. 93-96.
- Beck, T.J. (2018) 'Tracing disorder across theories of autism, empathy, and mental health care,' *Disability & Society*, 33:8, pp. 1303-1326.
- Bellacasa, M.P. de la (2012) 'Nothing comes without its world': Thinking with care,' *The Sociological Review*, 60(2), pp. 197-216.
- Bellacasa, M.P. de la (2017) *Matters of Care: Speculative Ethics in More than Human Worlds*. Minneapolis: University of Minnesota Press.
- Bellacasa, M.P. de la (2019) 'Re-animating soils: transforming human-soil affections through science, culture and community,' *The Sociological Review Monographs*, 67 (2), pp. 391-407.
- Bennett, T. and Joyce, P. (Eds) (2010) *Material Powers: Cultural Studies, History and the Material Turn*. London: Routledge.
- Beresford, B. (2004) 'On the road to nowhere? Young disabled people and transition,' *Child: care, health and development*, 30 (6), pp. 581-587.

Beresford, B., Tozer, R., Rabiee, P. and Sloper, P. (2004) 'Developing an approach to involving children with autistic spectrum disorder in a social care research project,' *British Journal of Learning Disabilities*, 32, pp. 180-85.

Berry, A., Do Nascimento, A., and Pacini-Ketchabaw, V. (2018) 'Pedagogies of Care: Thinking-with and Paying Attention,' *CYC-Online*. Available at: <https://www.cyc-net.org/cyc-online/sep2018.pdf> (Accessed on November 24, 2019).

Bickford, J. (2013) 'Reassembling knowledge translation through a case of autism genomics: multiplicity and coordination amidst practiced actor networks,' PhD thesis. University of Western Ontario. Available at <https://ir.lib.uwo.ca/cgi/viewcontent.cgi?referer=https://duckduckgo.com/&httpsredir=1&article=2459&context=etd> (Accessed on May 13 2017).

Biesta, G. (2006) 'Against learning: Reclaiming a language for education in an age of learning,' *Nordic Pedagogy*, 24, pp. 70-82.

Bingham, N. (2006) 'Bees, butterflies and bacteria: biotechnology and the politics of nonhuman friendship,' *Environment and Planning*, 38, pp. 483 – 498.

Blakemore, S.J. and Robbins, T.W. (2012) 'Decision-making in the adolescent brain,' *Nature Neuroscience*, (15) 9, pp. 1184-1191.

Blakesley, D., Rickinson, M. and Dillon, J. (2013) *Engaging children on the autistic spectrum with the natural environment: Teacher insight study and evidence review*, Natural England Commissioned Reports, NECR116.

Bolte, S. (2014) 'The power of words: Is qualitative research as important as quantitative research in the study of autism?' *Autism*, 18 (2), pp. 67-68.

Bolte, S. and Richman, K.A. (2019) 'Editorial: Hard Talk: Does autism need philosophy?' *Autism*, 23 (1), pp. 3-7.

Bonnel, A., McAdams, S., Smith, B., Berthiaume, C., Bertone, A., Ciocca, V., Burack, J.A. & Mottron, I. (2010) 'Enhanced pure-tone pitch discrimination among persons with autism but not Asperger syndrome,' *Neuropsychologia*, 48, pp. 2465-2475.

Boulter, C., Freeston, M., South, M., and Rodgers, J. (2014) 'Intolerance of uncertainty as a framework for understanding anxiety in children and adolescents with autism spectrum disorders,' *Journal of Autism and Developmental Disorders*, 44, pp. 1391-1402.

Brewer, J. (2000) *Ethnography*. Buckingham: Open University Press.

British Educational Research Association (BERA) (2011) *Ethical Guidelines for Educational Research*. 4th Edition. Available at: <https://www.bera.ac.uk/publication/bera-ethical-guidelines-for-educational-research-2011> (Accessed September 27 2015)

- Brodin, J. (2009) 'Inclusion through access to outdoor education: Learning in Motion,' *Journal of Adventure Education and Outdoor Learning*, 9 (2), pp. 99-113.
- Brooks, M. and Davis, S. (2008) 'Pathways to participatory research in developing a tool to measure feelings,' *British Journal of Learning Disabilities*, 36, pp. 128-33.
- Bruni, A. (2005) 'Shadowing software and clinical records: On the ethnography of non-humans and heterogenous contexts,' *Organization*, 12 (3), pp. 357-378.
- Burman, E. (1994) *Deconstructing Developmental Psychology*. London: Routledge.
- Burns, N., Paterson, K., and Watson, N. (2009) 'An inclusive outdoors? Disabled people's experiences of countryside leisure services,' *Leisure Studies*, 28 (4), pp. 403-417.
- Callon, M. (1984) 'Some elements of a sociology of translation: domestication of the scallops and the fishermen of St Brieuc Bay,' *The sociological review*, 32(1), pp.196-233.
- Cameron, L. and Murphy, J. (2007) 'Obtaining consent to participate in research: the issues involved in including people with a range of learning and communication disabilities,' *British Journal of Learning Disabilities*, 35, pp. 113-120.
- Camm-Crosbie, L., Bradley, L., Shaw, R., Baron-Cohen, S., and Cassidy, S.(2018) "'People like me don't get support": Autistic adults' experiences of support and treatment for mental health difficulties, self-injury and suicidality,' *Autism*, 23 (6), pp. 1431-1441.
- Campbell, E. and Lassiter, L.E. (2015) *Doing Ethnography Today*. Chichester: Wiley Blackwell.
- Castree, N. (2004) 'Nature is dead! Long live nature!' *Environment and Planning A*, 36 (2), pp. 191-194.
- Castree, N. and Nash, C. (2006) 'Posthuman geographies,' *Social and Cultural Geographies*, 7 (4), pp. 501-504.
- Chang, Y. and Chang, C. (2010) 'The Benefits of Outdoor Activities for Children with Autism,' 16th International Symposium on Society and Resource Management (ISSRM). Corpus Christi, Texas, June 6-10, 2010.
- Christensen, P. (2004) 'Children's participation in ethnographic research: Issues of power and representation,' *Children and Society*, 18 (2), pp. 165-176.
- Collins, P. (2004) *Not Even Wrong: A father's journey into the lost history of autism*. New York and London: Bloomsbury.

- Conn, C. (2019) 'Socio-material realities of inclusive pedagogy for autistic pupils in mainstream primary schools in the UK,' *Scandinavian Journal of Disability Research*, 21 (1), pp. 262-270.
- Conradson, D. (2005) 'Landscape, care and the relational self: therapeutic encounters in rural England,' *Health and Place*, 11 (4), pp. 337-348.
- Coole, D. and Frost, S. (Eds) (2010) *New Materialisms: Ontology, Agency and Politics*. Durham: Duke University Press.
- Corsaro, W. (2015) *The Sociology of Childhood*. Fourth Edition. Los Angeles: Sage.
- Crane, L., Adams, F., and Harper, G. (2019) "'Something needs to change": Mental health experiences of young autistic adults in England,' *Autism*, 23 (2), pp. 477-493.
- Crang, M. and Cook, I. (2007) *Doing Ethnographies*. Los Angeles: Sage.
- Cytowic, R. (2010) 'Our hidden superpowers,' *New Scientist*, 24 April, 46.
- Davis, J., Watson, N. & Cunningham-Burley, S. (2000) 'Learning the lives of disabled children,' In Christensen, P. & James, A. (eds) *Research with Children: Perspectives and practices*. London: RoutledgeFalmer.
- Davis, J., Watson, N. and Cunningham-Burley, S. (2017) 'Disabled children, ethnography, and unspoken understandings,' in Christensen, P. & James, A. (Eds) *Research with Children: Perspectives and practices*. Third Edition. London: Routledge.
- De Bruin, S., Ferwerda-van Zonneveld, R., Elings, M., and Hassink, J. (2013) 'Effects of green care farms on different client groups: Experiences from the Netherlands in Gallis, C. (Ed) *Green care for human therapy, social innovation, rural economy, and education*. Nova Science.
- Dean, M., Harwood, R., and Kasari, C. (2017) 'The art of camouflage: Gender differences in the social behaviours of girls and boys with autism spectrum disorder,' *Autism*, 2 (6), pp. 678-689.
- DEFRA (2011) *The Natural Choice: securing the value of nature*. HM Government Policy. Available at: <https://www.gov.uk/government/publications/the-natural-choice-securing-the-value-of-nature> (Accessed on 14 December 2016).
- Department for Education (2019) 'Children with Special Educational Needs and Disabilities (SEND),' Available at <https://www.gov.uk/children-with-special-educational-needs> (Accessed on Dec 17 2019).
- Dillon, J. and Dickie, I. (2012) *Learning in the Natural Environment: Review of social and economic benefits and barriers*. Natural England Commissioned Reports, Number 092.

Dillon, J., Rickinson, M., Teamey, K., and Morris, M. (2006) 'The value of outdoor learning: Evidence from research in the UK and elsewhere,' *The School Science Review*, 87 (320), pp. 107-111.

Donaldson, G. W. and Donaldson, L. E. (1958) 'Outdoor education: A definition,' *Journal of Health-Physical Education-Recreation*, 17: 63.

Emerson, R.M., Fretz, R.I., and Shaw, L.L. (2011) *Writing Ethnographic Fieldnotes*. Chicago: University of Chicago Press.

Evans, B. (2018) 'Histories of violence: Neurodiversity and the policing of the norm. Brad Evans interviews Erin Manning,' *Los Angeles Review of Books*, published Jan 2 2018, Available at: <https://lareviewofbooks.org/article/histories-of-violence-neurodiversity-and-the-policing-of-the-norm/> (Accessed on July 14 2018).

Evernden, N. (1985) *The natural alien*. Toronto: University of Toronto Press.

Eyal, G. (2013) 'For a sociology of expertise: The social origins of the autism epidemic,' *American Journal of Sociology*, 118 (4), pp. 863-907.

Faber Taylor, A. and Kuo, F. E. (2006) 'Is contact with nature important for healthy child development? State of the evidence,' In Spencer, C. and Blades, M. (Eds) *Children and their Environments*. Cambridge: Cambridge University Press.

Falk, A.L., Hopwood, N., and Dahlgren, M.A. (2017) 'Unfolding practices: A sociomaterial view of interprofessional collaboration in health care,' *Professions & Professionalism*, 7 (2), <https://doi.org/10.7577/pp.1699>

Fannin, M., MacLeavy, J., Larner, W., and Wang, W.W. (2014) 'Work, life, bodies: New materialisms and feminisms,' *Feminist Theory*, 15 (3), pp. 261-268.

Farnham, M. and Mutrie, N. (1997) 'Research Section: The Potential Benefits of Outdoor Development for Children with Special Needs,' *British Journal of Special Education*, 24 (1), pp. 31-38.

Fawcett, L. (2013) 'Three degrees of separation: Accounting for Naturecultures in environmental education research,' in Stevenson, R., Brody, M., Dillon, J. and Wals, A. (Eds) *International Handbook on Research on Environmental Education*. Routledge: New York.

Fenton, A. and Krahn, T. (2007) 'Autism, neurodiversity, and equality beyond the "normal",' *Journal of Ethics in Mental Health*, 2 (2), pp. 1-6.

Fenwick, T., Doyle, S., Michael, M. and Scoles, J. (2015) 'Matters of Learning and Education: Sociomaterial approaches in ethnographic research,' in Bollig, S., Honig, M-S., Neumann, S. and Seele, C. (Eds) *MultiPluriTrans in Educational Ethnography: Approaching the Multimodality, Plurality and Translocality of Educational Realities*. Columbia University Press.

- Fenwick, T. and Edwards, R. (2010) *Actor-Network Theory in Education*. London: Routledge.
- Fenwick, T. and Edwards, R. (2011) 'Considering materiality in educational policy: Messy objects and multiple reals,' *Educational Theory*, 61 (6), pp. 709-726.
- Fenwick, T., Edwards, R. and Sawchuk, P. (2011) *Emerging Approaches to Educational Research: Tracing the Sociomaterial*. London: Routledge.
- Fenwick, T. and Landri, P. (2012) 'Materialities, textures and pedagogies: socio-material assemblages in education,' *Pedagogy, Culture and Society* 20 (1), pp. 1-7.
- Fingerson, L. (2011) 'Children's Bodies,' in Qvortrup, J., Corsaro, W. and Honig, M. (Eds) *The Palgrave Handbook of Childhood Studies*. Basingstoke: Palgrave Macmillan.
- Fletcher-Watson, S. and Happé, F. (2019) *Autism: A New Introduction to Psychological Theory and Current Debate*. 2nd Edition. Abingdon: Routledge.
- Fombonne, E. (1999) 'The epidemiology of autism: a review,' *Psychological Medicine*, 29, pp. 769-86.
- Fox, P. and Avramidis, E. (2006) 'An evaluation of an outdoor education programme for students with emotional and behavioural difficulties,' *Emotional and Behavioural Difficulties*, 8 (4), pp. 267-283.
- Frantz, C., Mayer, F.S., Norton, C. and Rock, M. (2005) 'There is no "I" in nature: The influence of self-awareness on connectedness to nature,' *Journal of Environmental Psychology*, 25, pp. 427-436.
- Freund, P. (2001) 'Bodies, Disability and Spaces: the social model and disabling spatial organisations,' *Disability & Society*, 16 (5), pp 689-706.
- Frigerio, A., Benozza, A., Holmes, R., and Runswick-Cole, K. (2018) 'The doing and undoing of the "autistic child": Cutting together and apart interview-based empirical methods,' *Qualitative Inquiry*, 24 (6), pp. 390-402.
- Frith, U. (2003) *Autism: Explaining the Enigma*. Oxford: Blackwell Publishing.
- Gallacher, L-A. and Gallagher, M. (2008) 'Methodological Immaturity in Childhood Research,' *Childhood*, 15, pp. 499-516.
- Galis, V. (2011) 'Enacting disability: how can science and technology studies inform disability studies?' *Disability and Society*, 26 (7), pp. 825-838.
- Gaskin, J., Berente, N., Lyytinen, K., and Yoo, Y. (2014) 'Toward Generalizable Sociomaterial Inquiry: A Computational Approach for Zooming in and out of Sociomaterial Routines,' *MIS Quarterly*, 38 (3), pp. 849-A12.

- Gill, T. (2007) *No Fear: Growing up in a risk averse society*. London: Calouste Gulbenkian Foundation.
- Godlee, F., Smith, J., & Marcovitch, H. (2011) 'Wakefield's article linking MMR vaccine and autism was fraudulent,' *British Medical Journal*, 342 (7788), pp. 64-66.
- Goodall, C. (2018) 'Mainstream is not for all: the educational experiences of autistic young people,' *Disability & Society*, 33 (10), pp. 1661-1665.
- Goodley, D. (2001) 'Learning difficulties, the social model of disability and impairment: challenging epistemologies,' *Disability & Society*, 16, pp. 207-231.
- Goodley, D., Lawthom, R., Liddiard, K. and Runswick-Cole, K. (2019) 'Provocations for Critical Disability Studies,' *Disability & Society*, 34 (6), pp. 972-997.
- Grandin, T. (2006) *Thinking in Pictures*. London: Bloomsbury.
- Grant, L. (2017) '*Don't use professional judgment, use the actual number:*' *The production and performance of educational data practices in an English secondary school*. Unpublished PhD thesis. University of Bristol.
- Grinker, R. (2008) *Unstrange Minds: Remapping the worlds of autism*. Philadelphia: Basic Books.
- Greenwood, D. (2013) 'A Critical Theory of Place-Conscious Education,' in Stevenson, R., Brody, M., Dillon, J., and Wals, A.E.J. (Eds) *International Handbook of Research on Environmental Education*. New York: Routledge.
- Grossman, R.B., Zane, E., Mertens, J., and Mitchell, T. (2019) 'Facetime vs Screentime: Gaze patterns to live and video social stimuli in adolescents with ASD,' *Scientific Reports*, 9, DOI: 10.1038/s41598-019-49039-7.
- Grube, V. (2012) 'Room with a view: Ethical encounters in room 13,' *Art Education*, 65 (6), pp. 39-44.
- Gruenewald, D. (2003) 'The best of both worlds: A critical pedagogy of place,' *Educational Researcher*, 32 (4), pp. 3-12.
- Guillemin, M. and Gillam, L. (2004) 'Ethics, reflexivity and "ethically important moments" in research,' *Qualitative Inquiry*, 10 (2), pp. 261-280.
- Gusterson, H. (1997) 'Studying up revisited,' *Political and Legal Anthropology Review*, 20(1), pp. 114-19.
- Guthman, J. and Mansfield, B. (2012) 'The implications of environmental epigenetics: A new direction for geographic inquiry on health, space and nature-society resources,' *Progress in Human Geography*, 37 (4), pp. 486-504.

- Hacking, I. (2009) 'Autistic autobiography,' *Philosophical Transactions of the Royal Society*. 364, pp. 1467-1473.
- Haigh, S.M. (2018) 'Variable sensory perception in autism,' *European Journal of Neuroscience*, 47, pp. 602-609.
- Hammersley, M. and Atkinson, P. (1995) *Ethnography: Principles in Practice*. Second Edition. London: Routledge.
- Hammersley, M. and Atkinson, P. (2007) *Ethnography: Principles in Practice*. Third Edition. London: Routledge.
- Hammersley, M. and Traianou, A. (2012) *Ethics and Educational Research*. British Educational Research Association on-line resource. Available at: <https://www.bera.ac.uk/publication/ethics-and-educational-research> (Accessed on May 10 2014).
- Happé, F. (1994) *Autism: An Introduction to Psychological Theory*. London: UCL Press.
- Happé, F., Ronald, A., and Plomin, R. (2006) 'Time to give up on a single explanation for autism,' *Nature Neuroscience*, 9 (10), pp. 1218-1220.
- Haraway, D. (1991) 'A Cyborg Manifesto: Science, technology and socialist-feminism in the late Twentieth Century,' *Simians, Cyborgs and Women: The Reinvention of Nature*. Routledge.
- Harbers, H. (2010) 'Animal farm love stories: About care and economy,' in Taylor, C.A. and Hughes, C. (Eds) *Posthuman Research Practices in Education*. London: Palgrave Macmillan.
- Harris, J. (2003) 'Time to make up your mind: why choosing is difficult,' *British Journal of Learning Disabilities*, 31(1), pp. 3-8.
- Hart, P. and Nolan, K. (1999) 'A Critical Analysis of Research in Environmental Education,' *Studies in Science Education*, 34 (1), pp. 1-69.
- Hartig, T., Mitchell, R., de Vries, S. and Frumkin, H. (2014) 'Nature and health,' *Annual Review of Public Health*, 35, pp. 207-228.
- Hays, D.G. and Singh, A.A. (2012) *Qualitative Inquiry in Clinical and Educational Settings*. New York: Guilford Press.
- He, J. and Jespersen, E. (2015) 'The embodied nature of autistic learning: Implications for physical education,' *Physical Culture and Sport Studies and Research*, DOI: 10.1515/pessr-2015-0012

- Heath, S., Brooks, R., Cleaver, E., and Ireland, E. (2009) *Researching Young People's Lives*. London: Sage.
- Hindmarsh, J. and Pilnick, A. (2007) 'Knowing bodies at work: embodiment and ephemeral teamwork in anaesthesia,' *Organisation Studies*, 28 (09), pp. 1395-1416.
- Hine, R., Peacock, J. and Pretty, J. (2008) *Care Farming in the UK: Evidence and Opportunities*. Report for the National Care Farming Initiative. Available at: <http://www.carefarminguk.org/sites/carefarminguk.org/files/UK%20Care%20Farming%20Research%20Study.pdf> (Accessed on October 8 2015).
- Hitchings, R. (2003) 'People, plants and performance: On actor network theory and the material pleasures of the private garden,' *Social & Cultural Geography*, 4 (1), pp. 99-114.
- Hollin, G. (2017) 'Autistic heterogeneity: Linking uncertainties and indeterminacies,' *Science as Culture*, 26 (2), pp. 209-231.
- Holmes, R.M. (1998) *Fieldwork with Children*. Thousand Oaks: Sage.
- Horton, J. (2008) 'A "sense of failure"? Everydayness and research ethics,' *Children's Geographies*, 6, pp. 363-383.
- Humberstone, B. and Stan, I. (2012) 'Nature and well-being in outdoor learning: authenticity or performativity,' *Journal of Adventure Education and Outdoor Learning*, 12 (3), pp. 183-197.
- Hughes, W. and Paterson, K. (1997) 'The Social Model of Disability and the Disappearing Body: towards a sociology of impairment,' *Disability & Society*, 12 (3), pp. 325-340.
- Hultin, L. (2019) 'On becoming a sociomaterial researcher: Exploring epistemological practices grounded in a relational, performative ontology,' *Information and Organization*, 29, pp. 91-104.
- Hultman, K. and Taguchi, H.L. (2010) 'Challenging anthropocentric analysis of visual data: a relational materialist methodological approach to educational research,' *International Journal of Qualitative Studies in Education*, 23 (5), pp. 525-542.
- Humphrey, N. and Parkinson, G. (2006) 'Research on interventions for children and young people on the autistic spectrum: a critical perspective,' *Journal of Research in Special Educational Needs*, 6 (2), pp. 76-86.
- Huws, J.C. and Jones, R.S.P. (2008) 'Diagnosis, disclosure and having autism: An interpretative phenomenological analysis of the perceptions of young people with autism,' *Journal of Intellectual and Developmental Disability*, 33 (2), pp. 99-107.

Iacono, T. and Murray, V. (2003) 'Issues of informed consent in conducting medical research involving people with intellectual disability,' *Journal of Applied Research in Intellectual Disabilities*, 16, pp. 41-51.

Iannaccone, A., Savarese, G., and Manzi, F. (2018) 'Object use in children with autism: Building with blocks from a Piagetian perspective,' *Frontiers in Education*, 3 (12), DOI: 10.3389/feduc.2018.00012.

Ingold, T. (2010) 'Bringing things to life: Creative entanglements in a world of materials,' *World*, 44, pp. 1-25.

Ingold, T. (2011) *Being Alive: Essays on movement, knowledge and description*. Routledge.

Ingold, T. (2013) 'Prospect,' in Ingold, T. and Palsson, G. (Eds) *Biosocial Becomings*. Cambridge: Cambridge University Press.

Jaarsma, P. and Welin, S. (2012) 'Autism as a natural human variation: Reflections on the claims of the neurodiversity movement,' *Health Care Analysis*, 20 (1), pp. 20-30.

James, A. (2011) 'Agency', in Qvortrup, J., Corsaro, W. and Honig, M. (Eds.) *The Palgrave Handbook of Childhood Studies*. Basingstoke: Palgrave Macmillan.

James, M. (2018) *Forest School and Autism: A Practical Guide*. Jessica Kingsley Publishers.

Jenkins, N.E. (2006) "'You can't wrap them up in cotton wool!" Constructing risk in young people's access to outdoor play,' *Health, Risk & Society*, 8 (4), pp. 379-89.

Jeste, S.S. and Geschwind, D.H. (2014) 'Disentangling the heterogeneity of autism spectrum disorder through genetic findings,' *National Review of Neurology*, 10 (2), pp. 74-81.

Jickling, B. and Wals, A. (2013) 'Probing Normative Research in Environmental Education,' in Stevenson, R., Brody, M., Dillon, J., and Wals, A.E.J. (Eds) *International Handbook of Research on Environmental Education*. New York: Routledge.

Jordan, R. (2008) 'Autistic spectrum disorders: a challenge and a model for inclusion,' *British Journal of Special Education*, 35 (1), pp. 11-15.

Kahn, P. (2002) 'Children's Affiliation with Nature: Structure, Development and the Problem of Environmental Generational Amnesia,' in Kahn, P. and Kellert, S. (Eds.) *Children and Nature*. Cambridge: MIT Press.

Kahn, P. (2011) *Technological Nature: Adaptation and the future of the human life*. Cambridge: MIT Press.

- Kanner, L. (1943) 'Autistic disturbances of affective contact,' *Nervous Child*, 2, pp. 217-250.
- Kaplan, S. (1995) 'The restorative benefits of nature – towards an integrative framework,' *Journal of Environmental Psychology*, 15, pp. 169-182.
- Kaplan, R. (2001) 'The nature of the view from home,' *Environment and Behaviour*, 33 (4), pp. 507-542.
- Kaplan, R. and Kaplan, S. (2002) 'Adolescents and the Natural Environment,' in Kahn, P.H. and Kellert, S. R. (Eds.) *Children and Nature*. Cambridge: MIT Press.
- Kellert, S.R. (2002) 'Experiencing nature: Affective, Cognitive, and Evaluative Development in Children,' in Kahn, P.H. and Kellert, S. R. (Eds.) *Children and Nature*. Cambridge: MIT Press.
- Keniger, L.E., Gaston, K.J., Irvine, K.N., and Fuller, R.A. (2013) 'What are the benefits of interacting with nature?' *International Journal of Environmental Research and Public Health*, 10 (3), pp. 913-935.
- Kennett, J. (2002) 'Autism, Empathy and Moral Agency,' *The Philosophical Quarterly*, 52 (208), pp. 340-357.
- Kenny, L., Hattersley, C., Molins, B., Buckley, C., Povey, C., and Pellicano, E. (2015) 'Which terms should be used to describe autism? Perspectives from the UK autism community,' *Autism* 20 (4), pp. 442-62.
- Kitchin, R. (1998) "'Out of place", "knowing one's place": Space, power and the exclusion of disabled people,' *Disability & Society*, 13 (3), pp. 343-356.
- Kontopodis, M. and Perret-Clermont, A. (2015) 'Educational settings as interwoven socio-material orderings: an introduction,' *European Journal of Psychology of Education*, 31 (1), pp. 1-12.
- Kuo, F.E. and Faber Taylor, A. (2004) 'A Potential Treatment for Attention-Deficit/Hyperactivity Disorder: Evidence from a National Study,' *American Journal of Public Health*, 94 (9), pp. 1580-1586.
- Kyburz-Graber, R. (2013) 'Socioecological Approaches to Environmental Education and Research,' in Stevenson, R., Brody, M., Dillon, J., and Wals, A.E.J. (Eds) *International Handbook of Research on Environmental Education*. New York: Routledge.
- Lassiter, L.E. (2005) *The Chicago Guide to Collaborative Ethnography*. Chicago: University of Chicago.
- Latour, B. (1993) *We Have Never Been Modern*. Cambridge, MA: Harvard University Press.

Latour, B. (2004) 'On using ANT for studying information systems: A (somewhat) Socratic dialogue,' in Avgerou, C., Ciborra, C., and Land, F. (Eds) *The social study of information and communication technology. Innovation, actors and contexts*. Oxford: Oxford University Press.

Law, J. (2003) 'Making a Mess with Method,' published by the Centre for Science Studies, Lancaster University web page, Available at <http://www.comp.lancs.ac.uk/sociology/papers/Law-Making-a-Mess-with-Method.pdf> (Accessed on May 18 2017).

Law, J. (2008) 'Actor network theory and material semiotics,' In Turner, B.S. (Ed) *The New Blackwell Companion to Social Theory*. Chichester: Wiley-Blackwell.

Law, J. and Mol, A. (2002) 'Complexities: An introduction,' in Law, J. and Mol, A. (Eds) *Complexities: Social Studies of Knowledge Practices*. Durham: Duke University Press.

Law, J. and Moser, I. (2007) 'Good passages, bad passages,' in: Asdal, K., Brenna, B., and Moser, I. (Eds.) *Technoscientific cultures: The Politics of Interventions*. Oslo: Abstrakt Forlag.

Lea, J. (2008) 'Retreating to nature: Rethinking "therapeutic landscapes,"' *Area*, 40 (1), pp. 90-98.

Lee, N. (2001) *Childhood and Society: Growing up in an age of uncertainty*. Buckingham: Open University Press.

Lee, N. and Motzkau, J. (2011) 'Navigating the bio-politics of childhood,' *Childhood*, 22, pp. 39-52.

Le Grange, L. (2013) 'Why we need a language of (environmental) education,' in Stevenson, R., Brody, M., Dillon, J., and Wals, A.E.J. (Eds) *International Handbook of Research on Environmental Education*. Routledge: New York.

Lenz-Taguchi, H. (2010) *Going beyond the theory/practice divide in early childhood education: Introducing an intra-active pedagogy*. London and New York: Routledge.

Leonardi, P. M. (2013) 'Theoretical foundations for the study of sociomateriality,' *Information and organization*, 23(2), pp. 59-76.

Leopold, A. (1949) *A Sand County Almanac*. Oxford.

Lester, J.N. and Paulus, T.M. (2012) 'Performative acts of autism,' *Discourse and Society*. 23 (3), pp. 259-273.

Lichterman, P. (2017) 'Interpretive reflexivity in ethnography,' *Ethnography*, 18 (1), pp. 35-45.

Liddicoat, K. and Krasny, M.E. (2013) 'Research on the long-term impacts of environmental education,' in Stevenson, R., Brody, M., Dillon, J., and Wals, A.E.J. (Eds) *International Handbook of Research on Environmental Education*. Routledge: New York.

Louv, R. (2005) *Last Child in the Woods*. Chapel Hill: Algonquin.

Lowstedt, M. (2015) "'Taking off my glasses in order to see": exploring practice on a building site using self-reflexive ethnography,' In Raiden, A.B. and Aboagye-Nimo, E. (Eds) *Proceedings from the 30th Annual ARCOM Conference, 1-3 September 2014, Portsmouth, UK, Association of Researchers in Construction Management*, pp. 247-256.

Loyd, D. (2013) 'Obtaining consent from young people with autism to participate in research,' *British Journal of Learning Disabilities*, 41 (2), pp. 133-140.

Lydon, S., Healy, O., O'Callaghan, O., Mulhern, T. and Holloway, J. (2014) 'A Systematic Review of the Treatment of Fears and Phobias Among Children with Autism Spectrum Disorders,' *Journal of Autism and Developmental Disorders*, 2(2), pp. 141-154.

MacLure, M., Holmes, R., Jones, L., and MacRae, C. (2010) 'Silence as resistance to analysis: Or, on not opening one's mouth properly,' *Qualitative Inquiry*, 16 (6), pp. 492-500.

MacLure, M. (2011) 'Qualitative inquiry: Where are the ruins?' *Qualitative Inquiry*, 17(10), pp.997-1005.

MacLure, M. (2013a) 'Classification or wonder? Coding as an analytic practice in qualitative research,' in Coleman, R. and Ringrose, J. (Eds) *Deleuze and research methodologies*, Edinburgh: Edinburgh University Press.

MacLure, M., (2013b) 'Researching without representation? Language and materiality in post-qualitative methodology,' *International journal of qualitative studies in education*, 26 (6), pp. 658-667.

MacLure, M. (2013c) 'The wonder of data,' *Cultural Studies-Critical Methodologies*, 13 (4), pp. 228-232.

Mandy, W. (2018) 'Editorial: The Research Domain Criteria: A new dawn for neurodiversity research?' *Autism*, 22 (6), pp. 642-644.

Manning, E. (2007) *Politics of Touch, Sense, Movement, Sovereignty*. Minneapolis: University of Minnesota Press.

Manning, E. and Massumi, B. (2014) *Thought in the Act: Passages in the Ecology of Experience*. Minneapolis: University of Minnesota Press.

Mannion, G., Fenwick, A., and Lynch, J. (2013) 'Place-responsive pedagogy: learning from teachers' experiences of excursions in nature,' *Environmental Education Research*, 19 (6), pp. 792-809.

Marcinkowski, T., Bucheit, J., Spero-Swingle, V., Linsenbardt, C., Engelhardt, J., Stadel, M., Santangelo, R., and Guzmon, K. (2013) 'Selected Trends in Thirty Years of Doctoral Research in Environmental Education in Dissertations Abstracts International From Collections Prepared in the United States of America,' in Stevenson, R., Brody, M., Dillon, J., and Wals, A.E.J. (Eds) *International Handbook of Research on Environmental Education*. Routledge: New York.

Mason, J. (1993) *An Unnatural Order: Uncovering the Roots of our Domination of Nature and Each Other*. New York: Simon & Schuster.

Mayer, F.S. and Frantz, C.M. (2004) 'The connectedness to nature scale: A measure of individuals' feeling in community with nature,' *Journal of Environmental Psychology*, 24, pp. 503-515.

McDonagh, P. (2013) 'Autism in an age of empathy: A cautionary critique,' in Davidson, J. and Orsini, M. (Eds) *Worlds of Autism: Across the spectrum of neurological difference*. Minneapolis: University of Minnesota Press.

McKibben, B. (2003) 'Worried? Us?' *Granta*, 83, pp. 7-12.

The Mental Capacity Act (2005). [online] Available at: [Accessed 3 Mar 2015].

Milen, M.T. and Nicholas, D.B. (2017) 'Examining transitions from youth to adult services for young persons with autism,' *Social Work in Health Care*, 56 (7), pp. 636-648.

Miller, J.K. (2003) *Women from Another Planet: Our Lives in the Universe of Autism*. Bloomington: Authorhouse.

Milton, D. (2012) 'On the ontological status of autism: the 'double empathy problem,' *Disability and Society*, 27 (6), pp. 883-887.

Milton, D. (2014) 'Autistic expertise: A critical reflection on the production of knowledge in autism studies,' *Autism*, 18 (7), pp. 794-802.

MIND (2007) *Ecotherapy*. Available at <http://www.mind.org.uk/media/273470/ecotherapy.pdf> (Accessed on December 7 2014)

Mitchell, W. and Glendinning, C. (2007) *A Review of the Research Evidence Surrounding Risk Perceptions, Risk Management Strategies and their Consequences in Adult Social Care for Different Groups of Service Users*. Social Policy Research Unit, York University.

- Mol, A. (2002) *The Body Multiple*. Durham: Duke University Press.
- Mol, A. (2008) *The logic of care: Health and the problem of patient choice*. Abingdon: Routledge.
- Mol, A. (2010) 'Actor-Network Theory: Sensitive Terms and Enduring Tensions,' *Kölner Zeitschrift für Soziologie und Sozialpsychologie*, 50, pp. 253-269.
- Mol, A. (2016) 'Foreward' *The Body Multiple* (Japanese edition) Available at <http://somatosphere.net/2016/10/juxtaposition.html> (Accessed on November 9 2018).
- Moore, M. (2014) *On the Spectrum: Autistics, Functioning and Care*. PhD Thesis. University of California Santa Cruz. Available at: <https://escholarship.org/uc/item/8707b86c> (Accessed on September 10 2019).
- Morag, O. and Tal, T. (2012) 'Assessing learning in the outdoors with the Field Trip in Natural Environments (FiNE) framework,' *International Journal of Science Education*, 34 (5), pp. 745-777.
- Morris J. (1998) 'Still missing? Vol. 1: the experiences of disabled children and young people living away from home,' Who Cares? Trust. London.
- Morris, J. (2002) *Moving into adulthood*. Report for the Joseph Rowntree Foundation. Available at <https://www.irf.org.uk/report/moving-adulthood-young-disabled-people-moving-adulthood> (Accessed on December 10 2019).
- Morrow, V. and Richards, M. (1996) 'The Ethics of Social Research with Children: An Overview,' *Children and Society*, 10, pp. 90-105.
- Murray, S. (2008) *Representing autism: Culture, narrative, fascination*. Liverpool: Liverpool University Press.
- Nadeson, M.H. (2005) *Constructing Autism*. London and New York: Routledge.
- Nagel, M. (2014) *In the middle: The adolescent brain, behaviour and learning*. Camberwell: Acer Press.
- National Autistic Society (2017) *Autism and Education in England*. Inquiry report for the All Party Parliamentary Group on Autism (APPGA), Available at <https://www.autism.org.uk/~media/nas/get-involved/campaign/appga/appga-autism-and-education-report.ashx?la=en-gb-36540928> (Accessed on December 20 2019).
- Natural England (2009) *Childhood and nature: A survey on changing relationships with nature across generations*. Available at: <http://publications.naturalengland.org.uk/publication/5853658314964992> (Accessed on August 20 2018).

Natural England (2016a) *Natural Connections Demonstration Project 2012-2016: Final Report*. Natural England publication. Available at <http://publications.naturalengland.org.uk/publication/6636651036540928> (Accessed on October 10 2017).

Natural England (2016b) *Links between the natural environment and mental health: evidence briefing (EIN018)*. Natural England Publication. Available at <http://publications.naturalengland.org.uk/publication/66366510> (Accessed on October 10 2017).

Natural England (2016c) *Links between the natural environment and learning: evidence briefing (EIN017)*. Natural England Publication. Available at <http://publications.naturalengland.org.uk/publication/6636651036540928> (Accessed on October 10 2017).

Natural England (2019) *Monitor of Engagement with the Natural Environment: The national survey on people and the natural environment, Children and young people report*. Natural England Report, NECR276. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/828838/Monitor_of_Engagement_with_the_Natural_Environment__MENE__Childrens_Report_2018-2019_rev.pdf (Accessed on January 15 2020).

Nespor, J. (2008) 'Education and place: A review essay,' *Educational Theory*, 58 (4), pp. 475-489.

Nicol, R., Higgins, P., Ross, H., and Mannion, G. (2008) *Outdoor Education in Scotland: A Summary of Recent Research*. Dundee: Learning and Teaching Scotland. Available at <http://www.snh.org.uk/pdfs/publications/education/ocreportwithendnotes.pdf> (Accessed on June 16 2018).

Niemimaa, M. (2014) 'Sociomaterial ethnography: Taking the matter seriously,' Eighth Mediterranean Conference on Information Systems, Verona. MCIS 2014 Proceedings. Paper 45.

Nimmo, R. (2011) 'Actor-network theory and methodology: social research in a more-than-human world,' *Methodological Innovations Online*, 6 (3), pp. 108-119.

Nind, M. (2008) *Conducting qualitative research with people with learning, communication and other disabilities: Methodological challenges*. ESRC National Centre for Research Methods Review Paper. Available at: <http://eprints.ncrm.ac.uk/491/1/MethodsReviewPaperNCRM-012.pdf> (Accessed on January 10 2016).

Nolan, J. and McBride, M. (2015) 'Embodied semiosis: Autistic 'stimming' as sensory praxis,' in Trifonas, P. (Ed) *International Handbook of Semiotics*, Dordrecht: Springer.

- Ochs, E. (2015) 'Corporeal reflexivity and autism,' *Integrated Psychological Behaviour*, 49, pp. 275-287.
- O'Neill, J.L. (1998) 'Autism: isolation not desolation – A personal account,' *Autism*, 2, pp. 199-204.
- O'Reilly, K. (2012) *Ethnographic Methods*. Abingdon: Routledge.
- O'Riordan, M. and Passetti, F. (2006) 'Discrimination in autism within different sensory modalities,' *Journal of Autism and Developmental Disorders*, 36, pp. 665-675.
- Ochs, E., Kremer-Sadlik, T., Sirota, K.G. and Solomon, O. (2004) 'Autism and the social world: an anthropological perspective,' *Discourse Studies*, 6 (2), pp. 147-183.
- Ogden, L.A., Hall, B., and Tanita, K. (2013) 'Animals, plants, people and things: A review of multispecies ethnography,' *Environment and Society*, 4 (1), pp. 5-24.
- Oliver, M. (1992) 'Changing the Social Relation of Research Production?' *Disability, Handicap and Society*, 7 (2), pp. 101-114.
- Oliver, M. (1996) *Understanding Disability: from theory to practice*. Basingstoke: Macmillan.
- Oliver, M. (2013) 'The social model of disability: thirty years on,' *Disability and Society*, 28 (7), pp. 1024-1026.
- Oliver, M. (2017) 'Defining impairment and disability: issues at stake,' in Emens, E (Ed) *Disability and Equality Law*. London: Routledge.
- Orlikowski, W. J. (2007) 'Sociomaterial Practices: Exploring Technology at Work,' *Organization Studies*, 28 (9), pp. 1435–1448.
- Orsini, M. and Davidson, J. (2013) 'Introduction: Critical autism studies: Notes on an emerging field,' in Davidson, J. and Orsini, M. (Eds) *Worlds of autism: Across the spectrum of neurological difference*. Minneapolis: University of Minnesota Press.
- Pacini-Ketchabaw, V. (2013) 'Frictions in forest pedagogies: common worlds in settler colonial spaces,' *Global Studies of Childhood*, 3 (4), pp. 355-365.
- Pacini-Ketchabaw, V., Taylor, A., and Blaise, M. (2016) 'Decentering the human in multispecies ethnographies,' in Taylor, C. and Hughes, C. (Eds) *Posthuman Research Practices in Education*. Palgrave Macmillan.
- Panelli, R. (2010) 'More than human social geographies: posthuman and other possibilities,' *Progress in Human Geography*, 34 (1), pp. 79-87.

- Parsons, S., Guldborg, K., MacLeod, A., Jones, G., Prunty, A. and Balfe, T. (2011) 'International review of the evidence on best practice in educational provision for children on the autism spectrum,' *European Journal of Special Needs Education*, 26 (1), pp. 47-63.
- Pearson, D.G. and Craig, T. (2014) 'The Great Outdoors? Exploring the mental health benefits of natural environments,' *Frontiers in Psychology*, 5, 1178, <https://doi.org/10.3389/fpsyg.2014.01178>
- Peers, D., & Eales, L. (2017) 'Moving materiality: People, tools, and this thing called disability,' *Art/research international: a transdisciplinary journal*, 2(2), pp. 101-125.
- Pellicano, L. (2014) 'A future made together: new directions in the ethics of autism research,' *Journal of Research in Special Educational Needs*, 14 (3), pp. 200-204.
- Pellicano, L., Mandy, W., Bölte, S., Stahmer, A., Lounds Taylor, J. and Mandell, D.S., (2018) 'A new era for autism research, and for our journal,' *Autism*, 22 (2), pp. 82-83.
- Pickering, A. (1993) 'The Mangle of Practice: Agency and Emergence in the Sociology of Science,' *American Journal of Sociology*, 99 (3), pp. 559-589.
- Pierides, D. (2010) 'Multi-sited ethnography and the field of educational research,' *Critical Studies in Education*, 51 (2), pp. 179-195.
- Pink, S. (2012) *Situating Everyday Life*. Los Angeles: Sage.
- Pink, S. (2015) *Doing Sensory Ethnography*. Second Edition. London: Sage.
- Piwowarczyk, A., Horvarth, A., Lukasik, J., Pisula, E., and Szajewska, H. (2017) 'Gluten- and casein-free diet and autism spectrum disorders in children: a systematic review,' *European Journal of Nutrition*, 57, pp. 433-440.
- Postma, D. (2012) 'Education as sociomaterial critique,' *Pedagogy, Culture & Society* 20 (1), pp. 137-156.
- Power, S., Taylor, C., Rees, G., and Jones, K. (2009) 'Out-of-school learning: Variations in provision and participation in secondary schools,' *Research Papers in Education*, 24 (4), pp. 439-460.
- Pratt, M.L. (1986) 'Fieldwork in common places,' in Clifford, J. and Marcus, G.E. (Eds) *Writing Culture: The Poetics and Politics of Ethnography*. Berkeley: University of California Press.
- Preece, D. and Jordan, R. (2010) 'Obtaining the views of children and young people with autism spectrum disorders about their experience of daily life and social care support,' *British Journal of Learning Disability*, 38 (1), pp. 10-20.

Price, A. (2013) 'Improving school attendance: can participation in outdoor learning influence attendance for young people with social, emotional and behavioural difficulties?' *Journal of Adventure Education and Outdoor Learning*, 15 (2), pp. 110-122.

Prout, A. (2000) 'Childhood Bodies: Construction, Agency and Hybridity,' in Prout, A. (Ed) *The Body, Childhood and Society*, Basingstoke: Macmillan Press.

Prout, A. (2005) *The Future of Childhood: Towards the interdisciplinary study of children*. Abingdon: RoutledgeFalmer.

Pyle, R.M. (2002) 'Eden in a vacant lot: Special places, species and kids in the neighborhood of life,' in Kahn, P.H. and Kellert, S. R. (Eds.) *Children and Nature*. Cambridge: MIT Press.

Qvortrup, J, Corsaro, W. and Honig, M. (2011) 'Why Social Studies of Childhood? An Introduction to the Handbook,' in Qvortrup, J., Corsaro, W. and Honig, M. (Eds) *The Palgrave Handbook of Childhood Studies*. Basingstoke: Palgrave Macmillan.

Ravet, J. (2011) 'Inclusive/exclusive? Contradictory perspectives on autism and inclusion: the case for an integrative position,' *International Journal of Inclusive Education*, 15(6), pp.667-682.

Reckwitz, A. (2002) 'Towards a theory of social practices: a development in cultural theorizing,' *European Journal of Social Theory*, 5 (2), pp. 243-263.

Reddington, S. and Price, D. (2018) 'Pedagogy of new materialism: Advancing the educational inclusion agenda for children and youth with disabilities,' *Disability Studies Quarterly*, 38 (1), pp. 465-481.

Reed, P., Osborne, L.A., and Waddington, E.M. (2012) 'A comparative study of the impact of mainstream and special school placement on the behaviour of children with Autism Spectrum Disorder,' *British Educational Research Journal*, 38 (5), pp. 749-763.

Reynolds, J. (2018) 'The Extended Body: On Aging, Disability and Well-being,' *The Hastings Center Report*. 48 (S3), pp. S31-S36.

Richardson, M., Hunt, A., Hinds, J., Bragg, R., Fido, D., Petronzi, D., Barbett, L., Clitherow, T., and White, M. (2019) 'A Measure of Nature Connectedness for Children and Adults: Validation, Performance and Insights,' *Sustainability*, 11 (3250).

Rickinson, M., Dillon, J., Teamey, K., Morris, M., Choi, M.Y., Sanders, D. and Benefield, P. (2004) *A review of research on outdoor learning*. Preston Montford: Field Studies Council.

Robben, A.C.G.M. (2012) 'Introduction: Sensorial fieldwork' in Robben, A.C.G.M. and Sluka, J.A. (Eds) *Ethnographic Fieldwork: An Anthropological Reader*. West Sussex: Wiley-Blackwell.

Rodgers, J. (1999) 'Trying to Get it Right: undertaking research involving people with learning difficulties,' *Disability & Society*, 14 (4), pp. 421-433.

Rodogno, R., Krause-Jensen, K., and Ashcroft, R.E. (2016) "'Autism and the good life": a new approach to the study of well-being,' *Journal of Medical Ethics*, 42, pp. 401-408.

Roth, W. (1996) 'Knowledge diffusion in a grade 4-5 classroom during a unit on civil engineering: An analysis of a classroom community in terms of its changing resources and practices,' *Cognition and Instruction*, 14 (2), pp. 179-220.

Rousseau, J.J. (2003 (1762)) *Emile: Or treatise on education*. Translated by W.H. Payne. New York: Prometheus Books.

Ruck, A. and Mannion, G. (2019) 'Fieldnotes and situational analysis in environmental education research: experiments in new materialism,' *Environmental Education Research*, <https://doi.org/10.1080/13504622.2019.1594172>

Russell, J. (2013) *Agency: Its role in mental development*. Psychology Press.

Ryan, K. (2012) 'The new wave of childhood studies: Breaking the grip of bio-social dualism?' *Childhood*, 19(4), pp. 439-452.

Samson, F., Hyde, K.L., Bertone, A., Soulieres, I., Mendrek, A., Ahad, P., Mottron, L., and Zeffiro, T.A. (2011) 'Atypical processing of auditory temporal complexity in autistics,' *Neuropsychologia*, 49, pp. 546-555.

Schatzki, T. (1996) *Social Practices: A Wittgensteinian approach to human activity and the social*. Cambridge: Cambridge University Press.

Schatzki, T. (2001) 'Introduction: Practice Theory,' in Schatzki, T.R., Knorr Cetina, K., and von Savigny, E. (Eds) (2001) *The Practice Turn in Contemporary Theory*. London and New York: Routledge.

Schatzki, T.R. (2002) *The site of the social: a philosophical account of the constitution of social life and change*. University Park: Pennsylvania State University.

Sempik, J. and Bragg, R. (2016) 'Green care: Nature-based interventions for vulnerable people,' in Barton, J., Bragg, R., Wood, C. and Pretty, J. (Eds) *Green Exercise: Linking Nature, Health and Well-being*. Routledge.

Shakespeare, T. (2013) 'The social model of disability,' in Davis, L (Ed) *Disability Studies Reader*. Fourth Edition. New York: Routledge.

Shakespeare, T. and Watson, N. (2001) 'The social model of disability: An outdated ideology,' *Research in Social Science and Disability*, 2 (1), pp. 9-28.

Shattuck, P.T., Narendorf, S.C., Cooper, B., Sterzing, P.R., Wagner, M., and Taylor, J.L. (2012) 'Postsecondary education and employment among youth with an autism spectrum disorder,' *Pediatrics*, 129 (6), pp. 1042-1049.

Shove, E., Pantzar, M., and Wattson, M. (2012) *The dynamics of social practice: everyday life and how it changes*. Los Angeles: SAGE.

Shyman, E. (2016) 'The reinforcement of ableism: Normality, the medical model of disability and humanism in applied behaviour analysis and ASD,' *Intellectual and Developmental Disabilities*, 54 (5), pp. 366-376.

Silberman, S. (2015) *Neurotribes: The legacy of autism and the future of neurodiversity*. London: Allen & Unwin.

Silverman, C. (2008) 'Fieldwork on another planet: Social science perspectives on the autistic spectrum,' *BioSocieties*, 3, pp. 325-341.

Simmons, B. and Watson, D. (2014) *The PMLD Ambiguity*. London: Karnac.

Sinclair, J. (1993) 'Don't Mourn for Us,' *Our Voice: Autism Network International newsletter*. 1 (3).

Singer, J. (1998) *Odd people in: The birth of community amongst people on the autistic spectrum: A personal exploration of a new social movement based on neurological diversity*. Thesis, Faculty of Humanities and Social Science, University of Technology, Sydney. Republished in *Neurodiversity: The Birth of an Idea* (2016).

Singh, I. and Elsabbagh, M. (2014) 'Autism research beyond the bench,' *Autism*, 18 (7), pp. 754-755.

Skarfors, L. (2009) 'Ethics in Child Research: Children's Agency and Researchers' "Ethical Radar",' *Childhoods Today*, 3 (1).

Smith, L.E., Greenberg, J.S., and Mailick, M.R. (2012) 'Adults with autism: Outcomes, family effects, and the multi-family group psychoeducation model,' *Current Psychiatry Report*, 14 (6), pp. 732-738.

Sobel, D. (2004) *Place-based education: connecting classrooms and communities*. Great Barrington: Orion Reader.

Soderstrom, S. (2014) 'Socio-material practices in classrooms that lead to the social participation or social isolation of disabled pupils,' *Scandinavian Journal of Disability Research*, 18 (2), pp. 95-105.

Solomon, O. (2010) 'Sense and the senses: anthropology and the study of autism,' *Annual Review of Anthropology*, 39, pp. 241-259.

Sørensen, E. (2005) *STS Goes to School: Spatial Imaginaries of Technology, Knowledge and Presence*, PhD Thesis. University of Copenhagen.

Sørensen, E. (2009) *Materiality of Learning, Technology and Knowledge in Educational Practice*. New York: Cambridge University Press.

St. Pierre, E.A. and Jackson A.Y. (2014) 'Qualitative data analysis after coding,' *Qualitative Inquiry*, 20 (6), pp. 715-719.

Stanutz, S., Wapnick, J., and Burack J. A. (2014) 'Pitch discrimination and melodic memory in children with autism spectrum disorders,' *Autism*, 18, pp. 137-147.

Stengers, I. (1993) *The Invention of Modern Science*. Paris: La Decouverte.

Sterponi, L. de Kirby, K. and Shankey, J. (2015) 'Rethinking language in autism,' *Autism*, 19 (5), pp. 517-526.

Straus, J.N. (2013) 'Autism as culture,' in Davis, L (Ed) *Disability Studies Reader*. Fourth Edition. New York: Routledge.

Strauss, A. (1987) *Qualitative Analysis for Social Scientists*. Cambridge: Cambridge University Press.

Strathern, M. (1991) *Partial Connections*. Walnut Creek: AltaMira.

Sultana, F. (2012) 'Producing Contaminated Citizens: Toward a Nature-Society Geography of Health and Well-Being,' *Annals of the Association of American Geographers*, 102 (5), pp. 1165-1172.

Tavory, I. and Eliosoph, N. (2013) 'Coordinating futures: towards a theory of anticipation,' *American Journal of Sociology*, 118 (4), pp. 908-942.

Taylor, A. (2013) *Reconfiguring the Natures of Childhood*. London and New York: Routledge.

Taylor, A. and Pacini-Ketchabaw, V. (2015) 'Learning with children, ants, and worms in the Anthropocene: towards a common world pedagogy of multispecies vulnerability,' *Pedagogy, Culture & Society*, 23 (4), pp. 507-529.

Taylor, C.A. (2016) 'Edu-crafting a Cacophonous Ecology: Posthumanist Research Practices for Education,' in Taylor, C.A. and Hughes, C. (Eds) *Posthuman Research Practices in Education*. London: Palgrave Macmillan.

- Taylor, J. (2010) 'On recognition, caring and dementia,' in Mol, A., Moser, I., and Pols, J. (Eds) *Care in Practice: On tinkering in clinics, homes and farms*. Verlag: Transcript.
- Taylor, L.E., Swerdfeger, A.L. and Eslick, G.D. (2014) 'Vaccines are not associated with autism: an evidence-based meta-analysis of case-control and cohort studies,' *Vaccine*, 32 (29), pp. 3623-3629.
- Thoreau, H.D. (1862) 'Walking' in Digital Thoreau Commons. Available at: <https://commons.digitalthoreau.org/walking/> (Accessed on December 12 2019)
- Timimi, S., Gardner, N., and McCabe, B. (2011) *The Myth of Autism*. Basingstoke: Palgrave Macmillan.
- Townsend, M. and Weerasuriya, R. (2010) *Beyond Blue to Green: The benefits of contact with nature for mental health and well-being*. Melbourne: Beyond Blue Limited.
- Travlou, P. (2006) *Wild Adventure Space for Young People: Literature Review – Survey of Findings*. Prepared for the Countryside Agency, English Nature and Rural Development Service.
- Tsing, A. (2015) *The mushroom at the end of the world: On the possibility of life in capitalist ruins*. Princeton: Princeton University Press.
- Tuffney-Wijne, I., Bernal, J., and Hollins, S. (2008) 'Doing research on people with learning difficulties, cancer and dying: ethics, possibilities and pitfalls,' *British Journal of Learning Difficulties*, 36 (3), pp. 185-190.
- Ure, A., Rose, V., Bernie, C. and Williams, K. (2018) 'Autism: One or many spectrums?' *Journal of Pediatrics and Child Health*, 54, pp. 1068-1072.
- Van Maanen, J. (2011) *Tales of the Field: On writing ethnography*. Chicago: University of Chicago Press.
- Vannini, P. (2015) 'Non-representational ethnography: new ways of animating lifeworlds,' *Cultural Geographies*, 22 (2), pp. 317-327.
- Verhoeff, B. (2012) 'What is this thing called autism? A critical analysis of the tenacious search for autism's essence,' *BioSocieties*, 7(4), pp.410-432.
- Virúés-Ortega, J. (2010) 'Applied behavior analytic intervention for autism in early childhood: Meta-analysis, meta-regression and dose-response meta-analysis of multiple outcomes,' *Clinical Psychology Review*, 30, pp. 387-399.
- Von Benzon, N.R. (2011) 'Who's afraid of the big bad woods? Fear and learning disabled children's access to local nature,' *Local Environment*, 16 (10), pp. 1021-1040.

Von Benzon, N.R. (2016) "'Vulnerable' Children in 'Dangerous' Places: Learning Disabled Children in Outdoor Green Space,' In Freeman, C., Tranter, P., and Skelton, T. (Eds) *Risk, Protection, Provision and Policy. Geographies of Children and Young People*. Springer.

Von Benzon, N.R. (2017a) 'Confessions of an inadequate researcher: space and supervision in research with learning disabled children,' *Social and Cultural Geography*, 18 (7), pp. 1039-1058.

Von Benzon, N. (2017b) 'Unruly children in unbounded spaces: School-based nature experiences for urban learning disabled young people in Greater Manchester, UK,' *Journal of Rural Studies*, 51, pp. 240-250.

Waal, F. B.M. de, and Ferrari, F. (2012) *The Primate Mind: Built to Connect with Other Minds*. Cambridge: Harvard University Press.

Waite, S., Passy, R., Gilchrist, M., Hunt, A. & Blackwell, I. (2016) *Natural Connections Demonstration Project, 2012-2016: Final Report*. Natural England Commissioned Reports, Number 215.

Walmsley, J. (2004) 'Inclusive learning disability research: the (nondisabled) researcher's role,' *British Journal of Learning Disabilities*, 32 (2), pp. 65-71.

Walmsley, J. and Johnson, K. (2003) *Inclusive Research with People with Learning Difficulties*. Jessica Kingsley: London.

Wattchow, B. and Brown, M. (2011) *A Pedagogy of Place: Outdoor education for a changing world*. Clayton: Griffin Press.

Weintraub, K. (2011) 'Autism Counts,' *Nature*. Available at: <http://www.nature.com/news/2011/111102/pdf/479022a.pdf> (Accessed on 9 November 2016).

Wellman, H.M. (1994) 'Early understanding of mind: the normal case,' in Baron-Cohen, S., Tager-Flusberg, H. and Cohen, D. (Eds) *Understanding other minds: Perspectives from autism*. Oxford: Oxford University Press.

Whatmore, S. (1997) 'Dissecting the autonomous self: Hybrid cartographies for a relational ethics,' *Environment and Planning D: Society and Space*, 15, pp. 37-53.

Whitburn, J., Linklater, W. and Abrahamse, W. (2019) 'Meta-analysis of human connection to nature and proenvironmental behaviour,' *Conservation Biology*, DOI 10.1111/cobi.13381.

White, M.P., Alcock, I., Grellier, J., Wheeler, B.W., Hartig, T., Warber, S.L., Bone, A., Depledge, M.H. and Fleming, L.E. (2019) 'Spending at least 120 minutes a week in nature is associated with good health and wellbeing,' *Scientific Reports*, 9, 7730.

- Williams, D. (1998) *Autism and Sensing: The unlost instinct*. London: Kingsley.
- Williams, S.J. and Bendelow, G. (1998) *The Lived Body: Sociological themes, embodied issues*. London: Routledge.
- Williams, G. and Busby, H. (2000) 'The politics of 'disabled' bodies,' in Johnson Williams, S., Gabe, J., and Cainan, M. (Eds) *Health, Medicine and Society: Key theories, Future agendas*. London: Routledge.
- Wilson, E.O. (1984) *Biophilia*. Cambridge: Harvard University Press.
- Wilson, R. (2019) 'What is nature?' *The International Journal of Early Childhood Environmental Education*, 7 (1), pp. 26-39.
- Winance, M. (2016) 'Rethinking disability: Lessons from the past, questions for the future. Contributions and limits of the social model, the sociology of science and technology, and the ethics of care,' *European Journal of Disability Research*, 10, pp. 99-110.
- Wing, L. (1993) 'The definition and prevalence of autism: a review,' *European Child Adolescent Psychiatry*, 2, pp. 61-74.
- Wing, L. (1996) *The autistic spectrum: A guide for parents and professionals*. London: Constable & Co.
- Wong, C., Odom, S.L., Hume, K.A. et al. (2015) 'Evidence-Based Practices for Children, Youth, and Young Adults with Autism Spectrum Disorder: A Comprehensive Review,' *Journal of Autism and Developmental Disorders*, 45, pp. 1951-1966.
- Woodhead, M. (2011) 'Child Development and the Development of Childhood,' in Qvortrup, J., Corsaro, W. and Honig, M. (Eds) *The Palgrave Handbook of Childhood Studies*. Basingstoke: Palgrave Macmillan.
- Woolley, H. (2012) 'Now being social: The barrier of designing outdoor play spaces for disabled children,' *Children and Society*, 27 (6), pp. 448-458.
- Wright, C.A., Wright, S.D., Diener, M.L., and Eaton, J. (2014) 'Autism spectrum disorder and the applied collaborative approach: a review of community based participatory research and participatory action research,' *Journal of Autism*, 1 (1), <http://dx.doi.org/10.7243/2054-992X-1-1>
- Zachor, D.A., Vardi, S., Baron-Eitan, S., Brodai-Meir, I., Ginossar, N., and Ben-Itzhak, E. (2016) 'The effectiveness of an outdoor adventure programme for young children with autism spectrum disorder: a controlled study,' *Developmental Medicine and Child Neurology*, DOI: 10.1111/dmcn.13337

Zimmer-Gembeck, M. and Collins, W. (2006) 'Autonomy Development during Adolescence,' in Adams, G. and Berzonsky, M. (Eds) *Blackwell Handbook of Adolescence*. Malden:Blackwell.

Appendix A: Information for school staff

The following was given to teachers in the Ashdown School post-16 class to provide information about the study.

The research I am hoping to do with post-16 students at [SCHOOL] is part of my PhD study at the Graduate School of Education, University of Bristol. My research focus is trying to understand autistic young people's school-based experiences in the natural environment. The purpose of the research is to better understand autistic young people's experiences in the natural environment, how these experiences emerge, what opportunities they offer young people and how experiences in the future can best be developed. There is very little evidence on what happens for autistic young people when they go outdoors, and this plus my background in inclusive youth work and interest in outdoor education has led me to study this area.

Within [SCHOOL], this research will ideally involve the following activities:

- **Observation** of young people both inside and outside the classroom (specifically on Wednesday trips to the farm) over the course of the school year. I want to clarify that 'observation' in this instance doesn't involve me watching and taking notes silently in the corner but is more likely to involve me as a participating member of the group as appropriate (though I will likely need to leave the group on occasion to record my observations throughout the session).
- **Interviews** with core staff members about their experiences with the young people in the natural environment
- **Documentary evidence** – looking at lesson plans, risk assessments, etc.
- **Activities** with the young people, possibly involving use of cameras, mapping or digital technology. These will be developed as I get to know the young people.

Importantly, this research plan is somewhat open and flexible so that it can adapt to the requirements of the young people, staff and class.

I aim to begin attending sessions at [SCHOOL] after October half term and hope to continue for the duration of the year. I will be seeking consent for participation from families and will also aim to explain in simple, accessible ways the purpose and activities of this research with the young people, so they can choose whether or not they want to participate.

I am really looking forward to working with everyone at [SCHOOL] and very much appreciate the warm welcome I've received and the opportunity to spend time with the students there. I am always happy to answer any questions about the research or to receive feedback on how it's working so please feel free to contact me with any questions or comments at [email]

Appendix B: Information about the ethical approach and safety in the field work site

The following information was given to and agreed with the primary contact at each school during the pilot study.

Conducting Research at [SCHOOL]

The research I am hoping to do with post-16 students at [SCHOOL] is part of my PhD study at the Graduate School of Education, University of Bristol. My research focus is on autistic young people's school-based experiences in the natural environment and what opportunities these experiences offer young people. There is very little evidence on autistic young people's experiences in the outdoors, and this plus my background in inclusive youth work and outdoor education has led me to study this area. I hope this research supports young people in their activities this year and also provides useful information on how to create valuable outdoor learning opportunities in the future.

I have given considerable thought to ethical issues related to this research and briefly offer my intended approach here:

- *Respect:* The research process should be carried out respectfully for all participants and should not harm participants in any way. Therefore, I aim to adapt any activities to suit students' support, learning and communication requirements. This also means that any outputs from the research – including my dissertation and possible other publications – should report findings respectfully and keep participants' names anonymous.
- *Consent:* I aim to gain consent from participants through written consent from students' families and for any staff interviews. I will also explain the research process in accessible ways to students throughout and aim to gain consent from them regularly along the way. Participation is voluntary and can be stopped at any time without explanation.
- *Collaboration:* I would like the research process and outcomes to be useful to the school and students as well as to my PhD dissertation. In that sense, I will aim to be transparent about my research aims and approach. I also hope to collaborate and work with school staff and students to understand how the research and I can best support the outdoor sessions and how the research outcomes can be made valuable to the students' and school's wider aims and outcomes.
- *Safety and risk:* The school remains responsible for assessing and managing risks and the safety of the students during school activities, including those that involve my interaction. School staff will brief me on any concerns, guidelines or safety issues that I need to know about, and I agree to follow their instructions and school guidelines.

I also recognise that research is an evolving process and many situations cannot be predicted and therefore responses to them cannot be planned. I plan to work collaboratively with school staff and students to respond to and resolve any ethical issues as they arise and am open to ongoing discussion about them.

Appendix C: Parental consent materials

[DATE]

Dear Parent/Carer,

I am a research student at the University of Bristol's Graduate School of Education and am studying outdoor learning and young people with autism. This research is part of my PhD funded by the University of Bristol and aims to gather evidence about the value of these outdoor experiences in schools and how they can become even more valuable and accessible. I am really excited to be working with [SCHOOL] and observing their post-16 classes in outdoor learning.

Throughout this school year, I will be supporting and observing your child's class and Wednesday trips to the local farm. At these sessions, I will be making notes and may also be asking questions and doing activities with students about their experiences. Activities may include using photography, video or other types of technology.

I will collect and process data in this research as outlined in the Data Protection Act. Information will be held securely on a computer until it is no longer required, at which point it will be destroyed. Results from the research will be presented in my doctoral thesis, as well as possibly in presentations or information for other teachers. Individual students' names will not be used in any of these publications. I will also share findings with the school community, which could also be passed on to parents.

In addition to gaining your consent, I will ask students for their agreement to participate. Participation is voluntary and can be stopped at any time. I will work closely with staff at the school to understand best ways to communicate and explain the research to students.

As part of this research, I am also interested in speaking to parents or carers about their child's outdoor experiences outside school, and I will contact you about this once the research is underway. Please provide consent to participate by completing and returning the form below. Thank you in advance! If you have any questions about the research, please feel free to contact me at [EMAIL].

With best wishes,

Alison Oldfield

_____ I agree to my child's participation in this research.

_____ I consent to photos or videos being taken of my child for this research.

_____ I consent to information about my child being used in research reports or other sharing of the research. I understand their names WILL NOT be used.

_____ I consent to photos or videos of my child being used in research reports or other sharing of the research. I understand their names WILL NOT be used.

Name of student _____

Parent/Carer Signature _____

Parent/Carer Printed Name _____

Date: _____

Appendix D: School staff consent materials

[Date]

I am a research student at the University of Bristol's Graduate School of Education and am doing a PhD on the experiences of autistic young people in the outdoors.

The aims of the research are:

- to better understand the experiences of autistic young people in outdoor learning experiences
- to support future outdoor learning opportunities for students at [SCHOOL] and other schools

As you know, as part of this research, I am observing students at the post-16 level who are regular participants in outdoor learning at [SCHOOL]. As part of this observation I will also be writing field notes and occasionally taking photos to record what happens with the class.

These field notes and photos will contribute to my doctoral thesis and possibly to other presentations on the research. They are held on a password-protected computer until the research is finished. Your participation in this research is voluntary, and if you would prefer that I do not use any observations or photos of you in the research, you are free to request this without explanation. Any references to people in the research will be anonymous, so your name would never be used in any publications of the research. If I would like to use photos that show your face and could identify you, I will seek your consent before doing so. I will also hope to present some of this research with [SCHOOL] in the future.

If you are happy to be involved in this research, please give your consent below. I am happy to answer any questions about the research now or how I might use or present the observations I have made. Please contact me at [EMAIL] or [PHONE].

With thanks,

Alison Oldfield

Please tick (✓) the statements you agree to below:

_____ I agree to participating in this research and understand my participation is voluntary and I can withdraw from this research before its results are published.

I consent to the following:

_____ Observations of class activities that I have been involved in.

_____ Photos of me to be used in the research. I understand my name will never be used. If a photo can be used to identify me, I understand that Alison will contact me using the information below to seek my specific consent.

Name _____

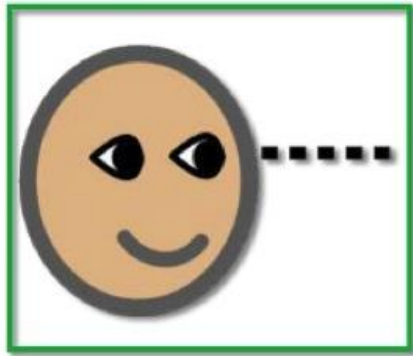
Signature _____

Email address _____

Date: _____

Appendix E: Sample student consent materials

I used materials like this set of photos to explain what I was doing and seek consent to write about what we did and take photos.



Appendix F: University ethical approval confirmation

***** Forwarded message *****

From: **Ethics Online Tool Administrator** <Liam.McKervey@bristol.ac.uk>
Date: 7 October 2015 at 18:48
Subject: Ethics Online Tool: application signed off
To: alison.oldfield@bristol.ac.uk

Your Ethics Outline Application for your research project Autistic Young People's Experiences in the Natural Environment has been granted ethical approval, you can begin your research.

For your reference, details of your Outline application can be found online here:

<http://www.bristol.ac.uk/red/ethics-online-tool/applications/26802>

--

Alison Oldfield
Doctoral Researcher

Graduate School of Education
University of Bristol, UK
alison.oldfield@bristol.ac.uk

Appendix G: Scenario of ethical situation regarding consent

Parental consent for one student in the class had been given verbally to a teacher who had shared the consent form and information with the parent, but the form itself was never returned despite numerous attempts. After the field work finished, the young person left the school and, due to circumstances unrelated to this research, the school and the family ceased communication with each other. The parent refused to sign any more forms or materials from the school, despite a number of attempts from the teacher. Written consent – something I as the researcher had stated I would achieve – became unattainable and the ability to use data gathered from interaction with the young person was in some doubt.

I had worked to gain consent from this young person in numerous ways, asking him on different occasions if it was ok to work with him, take notes on what we did, or take a photograph of him. The young person used verbal communication but would often repeat the words that had been said previously to him. For example, if I asked if I could take a photo, he might say 'take a photo.' So in addition to verbally asking for consent, I would also offer my two hands (shaking one to show it was 'yes' and then the other to show it was 'no'), then asking the question again and asking him to point to a hand. Each time I did this, he chose the 'Yes' hand. I also used visual images to check this understanding with him, as well as consulted with staff who had relationships with the young person. I therefore felt confident this young person had consented to different aspects of research. To clarify that this consent was sufficient, given the changed circumstances to my submitted ethics form, I consulted with school staff at the research site, people in my university department, including my supervisors and two members of the Graduate School of Education Ethics Committee, as well as Emma Williamson, the Ethics Chair of the Social Sciences and Law faculty, who ultimately confirmed that it was ok to use the data and that the ethical considerations and care I had taken during the research were sufficient.

Appendix H: Sample vignette prompts used in the interview

After [redacted], his tutor and I walked around the field and reached the gate, we saw that everyone had gone into the polytunnel to eat. [redacted]'s tutor told him this and repeatedly asked him to come eat in the polytunnel. He ignored her and walked past her into the barn. She told him lunch was not in the barn but in the polytunnel. She stood in front of him and said, 'Stop.' She held out her hand but he pushed past her into the barn. 'OK,' she said. 'Let's go see if they're in there.' When he got in the barn, he sat on the sofa in the main room and his tutor told me 'We had lunch in here last time and this is exactly where he sat.' She said, [redacted] they are not here. You can see that. They are in the polytunnel eating lunch.' He silently got up, left the barn, and went to the polytunnel.

[redacted] sat between [redacted] and me. He picked up an onion and smelled it. While he was sitting there, he smiled and called out, often looking to the side and smiling. I talked to him about the strong smell of the onion and how they can make you cry. His eyes began to water, and I told him not to rub his eyes with his fingers or hands. He got up to wash his hands in the sink. As we sat, he picked up the onion peels on the table and walked quickly towards the bin. He threw them away. When he came back, his eyes continued to water. Soon after, we decided to stop the activity because the onions were so strong for everyone.

At morning song time, [redacted] vocalises the songs, telling everyone when it is time for 'Up and down.' When we were at the farm, this movement was helpful while digging parsnips. We had been given the job of digging parsnips and [redacted] was sitting on the dirt, occasionally throwing the dirt at people and refusing to help. His tutor physically stood him up and helped move his arms and legs to dig the parsnips. She said, 'You go up, then down.' He said, 'Up and down.' We spent the rest of the session doing 'Up down digging.'

I am sitting next to [redacted] in the polytunnel. A big tray of dirty leeks is put in front of us and [redacted] explains that we will be cleaning and prepping the leeks. I pick one out, talk about its parts and the smell and ask if [redacted] wants to have a smell. He at first doesn't do anything but watch me, then he makes a repetitive sound, growing louder and louder. We make eye contact and he stops the noise suddenly, then shakes his head. I talk again about the leek and he touches it and peels a little bit off, handing me the peel. 'Yep, that's what we'll do with them,' I say. He smells his fingers, then rubs a finger in his mouth, perhaps to taste it. [redacted], your fingers are dirty,' I say. He takes them out of his mouth, gets up and walks away.

Appendix I: Photos of the changing field across the seasons



Image 19: The farm in winter, with no crops in the field



Image 20: The farm in the spring with some growing beds covered



Figure 21: The farm in the summer, all growing beds full