‘Shifting the Gaze: Exploring More-Than-Human Entanglements in Reception Classrooms.’

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Abstract

This study originated from my consultancy work with Reception teachers in the UK, where I was seeing the growing influence of educational policy agendas on their practice. The current outcomes-driven agenda prioritises specific academic ‘goals’, and this shapes both individual teaching practices and the overall professional culture. As a frequent observer of diverse classroom practice, I repeatedly witnessed instances of profound engagement and learning of children in play, which appeared to be overlooked by adults. It was these unseen dynamics that motivated me to explore this phenomenon further.

The thesis starts with a historical overview of the Early Years Foundation Stage, focusing on the policy context that led to the Foundation Stage as it currently informs primary schools. Next, a literature review describes studies of early childhood education that draw on New Material Feminism(s) approaches and concepts. From this, three research questions emerged: what more comes into view when concepts from New Material Feminisms are used to observe classroom life, what disrupts children's self-initiated and directed classroom play, and what kinds of learning take place outside the teachers' awareness?

The design followed a social material methodology to explore classroom dynamics from a more-than-human perspective, to identify the diverse entanglements and assemblages that emerge in classrooms beyond the teacher’s gaze, and how these proliferated and what stopped them. The study involved non-participant ethnographic observations in a Reception class in each of the two schools, chosen because they had contrasting socio-demographic profiles. Over 9 months, weekly observations alternated between schools. It took some time to develop my gaze so I could recognise the more-than-human entanglements. Data was recorded as field notes during and after the lessons. Diffractive analysis, encapsulated within six vignettes, unfolds the ways in which children immerse themselves in dynamic events within their learning spaces. The first three vignettes delve into the repercussions of adults interrupting children's ‘vital’ (Stern 2010) engagement. In contrast, the next vignettes

capture what occurs when children are allowed to navigate learning spaces without inhibition, unveiling a different facet of their experiences.

Findings shed light on the intricate dynamics between adult intervention and uninhibited exploration of classroom events in shaping children's encounters with their learning space. Specifically, there is a notable tension between the spontaneity that appears to be inherent in children's self-initiated play and the structured expectations imposed by a formal educational system. Vignettes reveal that the depth of engagement and learning embedded in children's play is going unseen by teachers. Policy implications affect the pedagogy and practice of both individual educators and the overarching culture of the profession, including pressure on educators to prioritise specific academic goals and calls for a re-evaluation to recognise the generative potential inherent in children's spontaneous activities during play and for a more dynamic and reflexive approach that values the entanglement of human and non-human elements in the educational experience.

Introduction

My identity as an early years educator has been constructed over three decades as a teacher and headteacher and, for the past 15 years, as an early childhood education consultant. Along with a wealth of experiences and knowledge, the past three decades have also formulated my view on what it is to be a 'successful' early childhood educator and what constitutes 'best practice' within this field. Evolving over time, my pedagogy was initially formed from within a policy and outcome-driven profession, but alongside this development, there was a growing awareness of the limitations of the education system that is imposed on practitioners, which I felt did not recognise the richness of children's experiences and learning potential. This frustration manifested in searching for an alternative perspective that could enrich my understanding of the complex dynamics in children's play.

A substantial portion of my professional work involves spending time in early childhood learning spaces across the world, watching how children and adults interact and inhabit them together. One of the things I was most struck by is how much more you can notice when you are an observer with no direct responsibility for the children. These opportunities to look at the immersive actions of hundreds of children across multiple spaces revealed a dynamic of their play where moments of what appeared to be profound engagement were sometimes reached outside of adult engagement. However, they were often denied or prematurely stopped by adults who seemed not to recognise their importance, saw them as a disruption, or redirected the play towards a more academic or outcome-driven conclusion.

The moments I observed during my professional work were so laden with potentiality that I decided to examine them more closely through a doctoral research project. I used this process not only to attempt to articulate the immersive learning that I was seeing in children but also to expose this learning to the educators, facilitating a paradigm shift in their pedagogy and, in turn, positively impacting their practice. Influencing early childhood educators' practice based on research was a process that was very familiar to me and part of my everyday role.

Throughout this research project, I was acutely aware of the conflicting positions I inhabited while undertaking the fieldwork in Reception classrooms. I have been an early childhood education consultant for over 30 years, working with numerous schools across nationally and internationally. The two schools involved in this study, St Johns and Oakfield Primary (fictional names), were both institutions I had previously engaged with in my consultancy capacity.

At Oakfield I had conducted several professional development workshops for the early years team over the past five years, focusing on creating enabling environments and supporting child-led learning. I had worked directly with Mrs. James, the Reception class teacher, and Mr. Armstrong the headteacher, on implementing a new outdoor learning space. At St. John's Primary, my involvement had been more recent, spanning the last two years. I had provided guidance on curriculum development and assessment practices to Mrs. Simms, the Reception class teacher, and had regular meetings with the headteacher, to discuss the school's early years strategy.

As I began my fieldwork, I noticed a tension between my familiar role as a consultant and my new position as a researcher. As a consultant, I was accustomed to observing classrooms looking for opportunities for improvement, and possibilities to enhance practice to align with current policy directives. However, as a researcher, I was trying to attune myself to a different way of seeing - one that focused on the complex intra-actions between children, materials, and spaces, without making judgments or recommendations.

This shift in perspective was initially challenging. During my early observations, I found myself instinctively noting areas for improvement or mentally formulating suggestions for the teachers. I had to consciously resist the urge to intervene or offer advice, reminding myself that my role now was to observe and analyse, not to guide or instruct. Gradually, I began to develop a new way of seeing, focusing on the subtle nuances of children's engagements with their environment, the flows of affect, and the agency of materials in shaping learning experiences. The process of shifting my gaze from consultant to researcher

was not linear or straightforward. It involved a constant negotiation between my established professional identity and my emerging researcher perspective.

In the initial phase of my research, inspired by the writing of Lenz-Taguchi (2007) and other New Material Feminist scholars, I employed several key concepts from their work as heuristic devices to help me in noticing incidents, events, materials, and interactions (or intra-actions) in classroom spaces. These concepts included intra-action, which helped me focus on the mutual constitution of entities through their relations rather than viewing them as separate, pre-existing elements; material-discursive practices, which encouraged me to pay attention to how material and discursive elements are entangled in classroom activities; pedagogical documentation. Diffractive analysis (e.g. Barad, 2007) inspired me to read data through multiple theoretical perspectives. Taking an onto-epistemological approach helped me to understand knowing and being as fundamentally intertwined. Additionally, the concept of assemblage proved crucial, allowing me to perceive the classroom as a dynamic network of human and non-human elements, constantly forming and reforming in complex configurations. These concepts collectively served as tools for attuning my attention to the intricate, entangled nature of classroom life, enabling me to notice and interpret events and interactions in ways that transcended traditional, human-centred perspectives and revealed the rich, multifaceted dynamics at play in early childhood settings. Gradually I came to recognise events that were instances of intra-action, material-discursive practices, and assemblages as introduced by Karen Barad (2007).

I found reading Barad (2007) and exploring her concept of intra-action really helped me reframe what I was seeing. Bennett's (2010) notion of vibrant matter helped me recognise materials and spaces as active participants rather than passive backdrops, revealing how objects could influence actions and create atmospheres. This perspective illuminated subtle child-material interactions I might have otherwise missed, such as how textures invite touch or how properties of light shape play. Ultimately, Bennett's concept enriched my observations by highlighting the intricate dance between human intentions and material affordances, offering a more dynamic view of classroom life, complementing Daniel Stern's (2010) work on vitality affects and forms. This synthesis allowed me to observe how the lively materiality of the classroom intra-acts with children's dynamic, felt experiences of

being alive. By combining these perspectives, I could perceive the classroom as an ecology of human and non-human vitalities, where children's moments of intense engagement are co-produced through their intra-actions with the material environment. This integrated approach provided a richer framework for understanding the affective landscape of early childhood spaces, revealing the complex interplay between material agency and children's embodied experiences.

As my research progressed, my relationship with these theoretical concepts deepened and became more nuanced. What began as a deliberate mechanism to think differently about classroom spaces and activities gradually evolved into a more integrated way of seeing and understanding. As my research progressed, I found myself naturally attuning to the complex assemblages at play in the classroom. I began to recognise how various elements, objects, spaces, sounds, and other forms of matter were intricately entangled with children's learning experiences in ways that went beyond traditional educational perspectives. This helped me move beyond seeing learning as solely tied to teacher-directed activities or formal curriculum. Instead, I began to appreciate how a wide array of material elements, often overlooked in traditional educational discourse, played crucial roles in shaping children's experiences and learning opportunities. This shift in perspective allowed me to recognise the classroom as a rich, multisensory environment where learning emerges through complex intra-actions between children and their material surroundings.

Using those New Material Feminist concepts, such as intra-action (Barad, 2007), worlding (Manning, 2014), enchantment (Bennett, 2012), agency (Lenz Taguchi, 2010) and vitality (Stern, 2012), this thesis embarks on a journey into the Reception classrooms of two contrasting primary schools over nine months, to unravel the intricate interplay between education policy and pedagogical practice within this crucial time of development. The exploration is driven by a genuine interest in understanding how these factors converge to shape the daily experiences of educators and the children in their care and the potential that could be harnessed if we could notice children's play and the spaces they play in differently.

What became apparent very quickly through my professional work is that many early childhood educators, particularly those based within schools, are saturated in a culture driven by policy. Institutions and individuals are judged by their ability to get the maximum number of children to a 'required' academic standard. The reputation of an institution and an individual can be built or taken away by the ability to meet these standards. The pressure to achieve them is immense and dominates the pedagogy of the sector and the practice within the classrooms.

I have used this study as a learning journey that has allowed me to understand and articulate the nuanced dynamics that influence children's encounters within their learning spaces. Using a series of vignettes taken from my field notes, I show the tension between the inherent spontaneity of children's self-initiated play and the structured expectations implicitly and explicitly enforced by our formal education system.

This thesis initially adopts a more conventional, linear approach to literature and policy review, reflecting the early stages of my research journey. This structure mirrors my initial understanding, which was rooted in traditional frameworks and necessitated a standard review of existing literature and policies. However, I now realise the linear structure of the early chapters belies the complex, non-linear nature of the research process itself. As I immersed myself in the fieldwork, I found that the 'data' resisted neat categorisation and linear analysis. The complex intra-actions of children, materials, affects, vitality and spaces that I observed demanded a more nuanced, wave-like approach to thinking and writing. This realisation led to a shift in my methodology and writing style in the empirical chapters, where I found myself compelled to write diffractively to capture the richness and complexity of the classroom dynamics.

This development in my approach reflects my transformative journey as a researcher. Moving from an initial position of conventional social science methods and methodologies to New Material Feminist methodologies characterised by waves of understanding, moments of clarity followed by periods of confusion, and gradual shifts in perspective.

The structure of my thesis consists of a policy review that situates the emergence of the Early Years Foundation Stage (EYFS) within the historical development of early childhood education policy. This is followed by a literature review that traces the emergence of New Material Feminist thinking and writing, specifically in relation to early childhood learning spaces. My empirical chapters present six vignettes taken directly from my research field notes. I then explore some of the many instances I saw when the teacher stopped children's play events. In the following chapter, I also present three examples where the play event was left uninterrupted to run its course. Using diffractive analysis, I re-examine these events through the lens of several theorists including Stern (2010), Bennett (2010), Lenz Taguchi (2017) and Manning (2014), which enables a unique view of children's intra-actions with their learning spaces to emerge.

I present my findings and recommendations for policy and practice in my thesis conclusion. With this work, I aim to not only contribute to the ongoing scholarly discussion and debate but also inspire tangible changes that empower early childhood educators to have the freedom and knowledge to create environments that value and celebrate the authentic curiosity, delight and engagement of children that can lead to transformational moments of enchanted learning.

Chapter 1 – Policy Review

Introduction

This study will examine the potential of posthuman concepts to recognise how the early years teachers' gaze picks up on some aspects of children's behaviours and not others. Posthumanism offers a lens to explore how and why teachers perceive and prioritise certain aspects of children's actions. By embracing posthuman concepts, the study seeks to uncover the intricate web of relationships between teachers, children, objects and spaces. Through this observation and reflection, I worked co-creatively to highlight the biases and limitations that appear to be inherent in the current view of practitioners, providing insight into how a posthuman perspective offers a more comprehensive and nuanced understanding of children's behaviours in the Reception classroom.

Two Reception classroom teachers in two contrasting primary schools (totalling two teachers) agreed to be observed and interviewed as part of the study. After a period of nonparticipant observations in each classroom, I started to work with the teachers to engage them in discussion about their pedagogic practice.

This chapter presents a literature review of the policy history and contexts that led to the Foundation Stage as it currently informs the schools. Its aim is to highlight the constraints that shape teacher's perspective, interpretations and responses to children's actions and behaviours in early childhood settings by analysing the policies that have shaped the early childhood profession in the United Kingdom, the ideological and structural boundaries that influence practitioner pedagogy and practice, and the perception of children's behaviours. This study recognises that policies are not neutral documents, but that they make an active contribution to construction of the concept of 'best practice' within the profession and provide many of the outcomes against which teachers' professional capabilities are judged. Exploring the existing policy landscape will reveal the systematic forces that confine teachers to specific perspectives and approaches when they are creating learning opportunities and spaces for children.

The Emergence of the Foundation Stage

The national policy framework for the education of children from birth to five years old in England is the Early Years Foundations Stage. Herein, I examine how the Early Years Foundation Stage came into being and specifically look at the use of child development theory to underpin the content and promote a message about 'best practice' for practitioners.

A multiplicity of discourses contributes to the general understanding of child development and learning. These discourses feed into practitioners' understandings of early childhood development and pedagogic practice. The 2016 UNESCO definition of pedagogy states that:

> Pedagogy is not simply the 'act of teaching' but the 'act of teaching' as informed by the ideas, values and beliefs that sustain and motivate it. Pedagogy is also practical – in that it aims to produce skills, knowledge structures or ways of thinking which will enable people to participate in and transform their current future lives.
>
> UNESCO (2016: 6)

Pedagogy not only underpins how practitioners deliver the curriculum through the act of teaching, but it also represents and is shaped by an amalgamation of beliefs, theory and policy (Alexander, 2000). These beliefs and ideas come from multiple discourses which are often a mixture of academic research on child development, ecological theories, socio-cultural theories, children's rights and policy initiatives (Palaiologou, 2019). These various discourses are recontextualised within policy documents and so change is influenced by government agendas and the ideas they wish to perpetuate. Policy documents are then distributed to practitioners working in a variety of early childhood fields. Teachers and early years practitioners have their own beliefs and ideas about the policy documents according to their professional training, experience and ongoing professional development. Within these contexts, ideas embedded in policy documents get further interpreted and changed according to functional necessities and teachers' needs.

The work of many individuals has influenced policy and practice in early childhood education. The 1890s saw the influence of Froebel's theory and practice become more widespread through the establishment of the Kindergarten movement. From the early 1900s, Montessori's approach of a strong emphasis on individualisation became more recognised. With the publication of The Language and Thought of the Child in 1923 and Judgment and Reasoning in the Child in 1924, Piaget's theories of child development began to shape the thinking of educationalists and, along with Vygotsky, formed some of the key assumptions that were made about how children developed emotionally and cognitively. Susan Isaacs wrote two influential books on the social development of children in the 1930s, 'The Children We Teach' (1932) and 'Social Development in Young Children' (1933), all of which preceded the Education Act of 1944, which influenced the policy that came after it.

The last two hundred years have been littered with policies and Acts of Parliament that relate to the provision of care and education for children aged 0-5 years with elements of many of them still evident in the current Early Years Foundation Stage provision; the Education Act of 1870 (Forster), several reports from the Hadow Committee between 1923 and 1933 and the 1967 Plowden report are strong influences on the current policy, the EYFS, which is a framework for children up to the age of 5, when the UK government requires them to go into full-time education.

The documentation shows us that the primary reasons for creating provision for children of this age were to provide alternatives to care in the home and to begin educating children to develop basic skills such as reading and writing. These early interventions were seen as a supplement to the family, their primary aims were to nurture and educate.

Mainstream education was reacting to the needs of a growing economy following the Industrial Revolution. This required workers to be literate and numerate. A basic curriculum taught the fundamentals of literacy and numeracy and other practical and manual skills that were needed by the workforce at the time. This curriculum was often delivered to hundreds of children at the same time. Any provision for children who were too young to enter this type of school often replicated the style of teaching as well as the content.

By 1836 the Home and Colonial Society had been established, based on the work of Pestalozzi. Here we can see a shift to the curriculum that is being recommended for the under 5's. The focus in these settings was very much on children's emotional and sensory development. Funding was made available for specifically for school buildings for the first time. The 1840s and 1850s saw five acts of parliament being passed that enabled the education of the poor. The main objective of keeping younger children separate in the school system to this point was not a focus on their unique learning needs, but about ensuring that the older children would not be 'unduly disturbed' (Galton et al., 1980:31).

In 1870 the Elementary Education Act was passed, the first of several acts of parliament that were passed between 1870 and 1893. They created compulsory education in England and Wales for children aged 5 years to 13 years. The Education Act was also known as the Forster Act after its sponsor, William Forster. Even though the education of the under 5's was non-compulsory, there is historical evidence of education care outside of the home and family. The first infant school was established by Robert Owen in 1816 and records show that children were admitted there from the age of 2 years, enabling their parents to work,

After 1870 building regulations required different provision for Infant children. The regulations stated that the 'Infants' always needed to be on the ground floor, with different rooms for children and babies. It was also advised that they had their own playground space and access to the latrines without passing through the school room. This shows a recognition that the under 5's required different provision.

The Hadow Reports are a series of documents that were written between 1926 and 1933. They give detailed insights into educational thinking in the early 20th century. Some of the best-known of Hadow's reports are The Education of the Adolescent (1926) and The Primary School (1931) but he also wrote Psychological Tests of Educable Capacity (1924), Books in Public Elementary Schools (1928) and Infant and Nursery Schools (1933).

The Infant and Nursery Schools (1933) report begins with the history of infant education and has a comprehensive review of what was at that time the current knowledge about the physical and mental development of children up to the age of 7 years. The report has 105

recommendations, which is the largest number in any of the Hadow reports. The recommendations promote the existing age limits for compulsory and voluntary school attendance. They also recommend that children should transfer from infant to junior classes at the age of eight. The recommendations also suggest that, wherever possible, separate infant schools should be provided.

Professor Huxley was appointed by the London School Board to chair a review of this early school system in 1870. Huxley promoted the importance of Infant School education and recommended the introduction of Froebel's Kindergarten system. This is one of the earliest examples of education theory being promoted as a basis for the structure of the curriculum for children in the earliest stages of the school system. The Huxley Committee, 1931, recommended that two main Froebelian principles were to be the focus of early childhood development. One was the recognition of spontaneity in children and that this spontaneity should not only be recognised but encouraged by the teachers. The other was a focus on developing the whole child with teachers being advised to promote a love of movement (for healthy conditions), to encourage the use of the organs of sense, especially sight and touch, and to be responsive to the eager desire that children have to ask questions (Hadow, 1933:27).

A better understanding of the development of very young children in the early 1900s and the establishment of the Board of Education in 1905 led to an inquiry into the admission of 'infants' to primary school and the appropriateness of the curriculum. The inspectors concluded that teaching children by rote learning in large classes was detrimental to their development and contrary to the spirit of Froebel (Board of Education, 1905).

An Education Act was passed in 1921 that meant that local education authorities were able to provide school provision for 2 to 5-year-olds. The remit of these schools was not primarily education, but to provide for the health, nourishment and physical welfare of the children who attended.

The Plowden report refers to the 'cleansing of verminous children' (CASE, 1967: 116), highlighting the prevailing attitudes of the time towards hygiene and social issues in education. The term 'verminous' carries a dehumanising connotation, reducing children to

the status of parasites that they were infected with, reinforcing societal norms and biases that existed related to cleanliness and social class. At this time, we see a growing interest in the UK in the work of various Early Childhood theorists like Maria Montessori and Susan Isaacs. The Hadow Committees of 1931 and 1933 took account of these influences. The reports made recommendations that would eventually reshape the education system. The Hadow Committee report of 1933 recommended the implementation of effective Early Years Education for children, stating: '… in districts where the housing and general economic conditions are seriously below the average, a nursery school should if possible be provided.' (Hadow, 1933: 1878-8).

The Education Act of 1944 led to the provision of free education for young people aged 5 to 15 years, but it was 1948 before the Nurseries and Child-Minders Regulation Act was published that required the registration and regulation of provision for the under 5's. This provision was still not widely available even though there was an increasing demand for childcare given the number of women who were now going out to work. There was not a significant shift in provision until the Playgroup Movement was established in 1961. The movement was established by parents and, as well as a focus on the care provision, there was a strong emphasis on nurture and development.

A defining moment for child-centred education was the publication of the Plowden Report in 1967. The Plowden Report was the first thorough review of the education system since Hadow in 1931. The report strongly emphasised that at 'the heart of the educational process lies the child' (CACE, 1967: 1:7). Galton (1980) summarises that the report '…espoused child-centred approaches in general, the concept of 'informal' education, flexibility of internal organisation and non-streaming in a general humanist approach – stressing particularly the uniqueness of each individual and the paramount need for individualisation of the teaching and learning process.' (Galton et al., 1980: 40)

The Plowden Report concluded with a list of recommendations determining that nursery education should be for children aged 3 to 5 years, should come under the responsibility of education rather than health services and that children should be supervised by qualified teachers and would be funded as non-profit-making organisations. There was still not a

significant emphasis on what would be taught or how it would be taught. The recommendations of the Plowden Report led to a Government White Paper that outlined a 10-year expansion plan related to the provision for under-fives. Places in preschool education were to be made available for half of all 3-year-olds and ninety per cent of 4-year-olds by 1982. However, during the 1970s further investment in preschool education was suspended due to the change in government spending priorities.

The following 20 years saw a succession of difficult economic conditions and by 1990 investment in education had slumped and most of the government focus on education was on compulsory schooling, not pre-school education. In the 1990s a Labour government replaced the Conservatives and refocused on early education with several new policies, some allowing parents to claim for a reduction to the cost of their childcare. The Labour government brought significant change in 1997 with their plan to modernise the provision for the under 5's. The Nursery Education Grant was introduced which recognised the need for a national childcare policy. Childcare provision was now the responsibility of the Department of Education and Employment, and this saw the establishment of the first-ever Childcare Unit in 1998.

By early 2000 government policy had shifted to an agenda of providing more opportunities for children from families with low socioeconomic resources. The discourse changed to one that focuses on closing the attainment gap between that group and others. Pre-school education was identified as important for closing the attainment gap and breaking the cycle of deprivation (Baldock et al., 2009). It is this 'closing the gap' agenda that marks the introduction of discourse on 'outcomes' for Early Years children. Outcomes are based on statistical data across a cohort of children and specific ages rather than child development discourses.

Ten years into the millennium, the government had established a statutory framework that set out their expectations for the attainment of children by the end of the Foundation Stage. There was a clear intention to provide equal access to education for all, but the strategy behind the opportunities to learn, what would be taught and how it would be delivered was not as well defined.

In 2002, a thematic study was carried out as one of a series of studies as part of the International Review of Curriculum and Assessment Frameworks (INCA). The project was carried out by the National Foundation for Educational Research in England and Wales, on behalf of the Qualifications and Curriculum Authority in England. Using a comparative research methodology, the report compared data from 18 countries in the INCA project. Questionnaires were also used to collect additional data to gain a deeper understanding of the diversities within and between the countries. The final report was then presented to a delegation of international early years educators for discussion. While there were cultural differences in attitudes and approaches to early education, there were several common themes that were universal (Bertram and Pascal, 2002).

With particular regard to an early years curriculum, many of the delegates at the INCA project conference expressed the view that there was a large potential for damage if there was a prevailing attitude that the early experiences of children need to be speeded up or intensified. It was strongly felt that the early years should not be viewed as a preparation for what is to come next but seen as an experience in its own right. The INCA concluded that linear progression of knowledge which had been divided into specific subjects or disciplines was unhelpful as that approach does not reflect child development.

Some of the key issues from the report regarding the curriculum were that few countries have national curriculum guidelines for children under the age of three years. Many are considering it, but others have a strong stance against doing so. There was general agreement that the curriculum for those under three years of age should focus on the individual child's developing interests and needs, with an emphasis on dispositions and social and emotional well-being.

The report (Pascal and Bertram, 2012) concluded that virtually all participating countries have defined curriculum guidelines for children over the age of three, but they vary in detail and prescription. There was also some variation in how the Early Childhood Education and Care (ECEC) curriculum for children over three was defined. Most countries used areas of learning, few used activities, and no country used disciplines or subjects. It was found that most curriculum guidelines for those over three years of age included social and emotional, cultural, aesthetic and creative, physical, environmental, language and literacy, and

numeracy. Many countries emphasised cultural traditions and aimed to enhance social cohesiveness through the curriculum, but only three countries emphasised early literacy and numeracy within the early years curriculum. With reference to the UK, the report showed that education policy had been subject to significant amounts of change during successive governments which had resulted in a succession of short-term targets which were subject to change, showing a lack of consistency and long-term planning for Early Childhood Education.

At the beginning of the 1990s, there was a significant amount of new research being conducted into Early Childhood Education in the UK and internationally.

In 1993 'Educating Children under 5 in the UK' was a study that ascertained that the belief in the benefits that children gained from being in either full or part-time nursery provision were secondary to the benefits that they would get through staying at home with a primary carer, usually their mother. Through both quantitative and qualitative research methods, David (1993) examined both the historical and current social factors that had contributed to the lack of focus on preschool education. Culturally, at the time, the continual growth in women choosing to work and how this was impacting the need for childcare provision was increasingly recognised. What David (1993) concluded was that not only did parents want 'care' for their children, but they wanted quality education which she called 'educare'. This highlights that it is important to define what quality education looks like for children under 5.

A few years later in 1996, Pugh (1996) continued this theme by looking at the body of knowledge that now existed around the importance of child development in the first 5 years of life. Her writing takes account of new legislation that had been introduced in the Health Service, Education and Social Services. Her research also reflected the work of the Early Childhood Unit at the National Children's Bureau in a multidisciplinary way, looking at the relationship between practice, policy, and research. As well as the importance of respecting the wishes of parents concerning their childcare provision, she focused on the rights of the child and how they are represented, and the current provision that was available to meet the education and care needs. Another strong theme of her writing was the level of qualification that practitioners who work with the under 5's should possess as a minimum.

Pugh (1996) echoes the conclusions of the other research that was being carried out at the time. She also marked an important observation, that the core course information that trainee teachers and NVQ students were being given was not being kept up to date with current research. So, adults going to the care of the under 5's were promoting an ill-informed vision of 'best practice', a theme that would still be an issue a quarter of a century later.

In 1999 Nutbrown published a second edition of her book *Threads of Thinking* (Nutbrown 1999). This book for early years educators looked at how children's learning developed using detailed observations of children who were active in their learning journeys. Nutbrown (1999) focused on the need for any ECE curriculum to recognise and promote children's learning agendas and make the link between child development and policy outcomes. She argues that the way children learn has not changed, yet there is a need to understand more about the process. What has changed is the policy around early childhood education and therein there is a significant schism which has negative implications for early years educators, the profession as a whole and ultimately children. Twelve years later she would publish a fourth edition of the book that highlighted the same issues within the Early Years sector.

Nutbrown (1999) was not alone in her thinking or writing at this time. There were several educationalists in the late 1990s and early 2000s whose writing was raising concerns about the value of play in our education system and the disjointed relationship between the curriculum and the science of child development. For instance, in her 1999 book about the importance of play, Moyles (1999: xi) wrote: 'with core curriculum matters a priority the processes of education are sometimes overlooked, and subject-based education becomes paramount.' She further expanded this thinking in a paper commissioned by the Department of Education and published in 2001, along with Adams and Musgrove. In 'Early years practitioners' understanding of pedagogical effectiveness: Defining and managing effective pedagogy', the authors considered the concept of pedagogy across a range of early years settings and how effective that pedagogy was. Using grounded theory, they worked with 74 practitioners from 27 settings which were in 16 different geographical locations. The team used a combination of interviews, questionnaires completed by parents, reflective

dialogues, and video analysis to inform their findings. The outcome of their study indicated that early years practitioners needed to possess a variety of skills, knowledge and characteristics to be able to successfully implement an impactful early years curriculum. It was also felt that practitioners needed to establish and grow a sound pedagogy for early years education which would be underpinned by accurate and current knowledge, systematic support, and professional development. The report concluded that practitioners' initial training and continued professional development provision was often limited and ad hoc.

There was a growing swell of voices around this time from the early childhood education sector who were giving a clear and strong message that research was showing that child development was not being understood, valued, or developed in the sector and the potential solutions to the issue were being identified.

In 2001 Kathy Sylva, Edward Melhuish, Pam Sammons, Iram Siraj-Blatchford and Brenda Taggart were commissioned to undertake the first major European longitudinal study of the development of children aged 3 to 7 years. The primary focus of the study was to investigate the effects of current preschool education using information from 3,000 children. The children were receiving their pre-school provision from a variety of settings including day nurseries, playgroups, private nurseries, nursery schools and nursery classes within schools. A cohort of children who had no pre-school experience or provision were also used for comparison. The Effective Provision of Pre-School Education project (EPPE) generated some ground-breaking and significant outcomes and remains an important study today. Not only did the project look at the children, but it also considered the background characteristics of the parents and the children's home environments. EPPE took an in-depth look at the characteristics of effective practice and how those characteristics were supported by the pedagogy of the practitioner and setting. This was done by carrying out 12 in-depth case studies in settings where children were achieving positive outcomes. The EPPE project produced a range of significant findings, including that a quality pre-school experience enhances all aspects of children's development and that children from disadvantaged backgrounds made significant progress with regular pre-school attendance.

In relation to what constituted successful and impactful preschool provision, some key elements were consistent throughout the report. In settings where staff had higher qualifications, children made better progress. Quality indicators included warm relationships with children, and having a trained teacher in a setting also had an impact on progress. Effective pedagogy was also a success indicator within the report. Time for children to play and engage in 'sustained shared thinking' was seen to extend children's learning. This effective pedagogy was also passed on to parents to support their children's development at home. Significant progress was seen. The report argued that what parents do is more important than who parents are.

In 2006 research carried out into the quality of pre-school education by Anning and Edwards (2006) adds to the EPPE project by highlighting the importance of the quality of experiences for children before they start school. Their research particularly focuses on the need for quality partnerships with parents and an early childhood education service that recognises and meets the needs of the modern family. What Anning and Edwards (2006) also emphasised was that not all preschool provision was equal or had an equal impact on children and their families. Where the provision was good, the children made good progress in their social and emotional development as well as their cognitive function. In these settings, relationships with parents were found to be more positive and inclusive. In poorer-quality settings, the provision could result in children developing poor social skills and demonstrating high levels of aggression. They concluded that children from more socially deprived backgrounds achieved more success both socially and academically in school if they had attended a pre-school setting with well-trained and actively developed practitioners.

These findings alongside the other research that was being carried out at this time strongly advocate for reform within the Early Childhood Education sector, not just around policy development, but improvement to practitioner knowledge and training, curriculum development and a focus on building a pedagogy within the sector that is grounded in the science, research, and theory of child development. The role of parents as partners was seen as integral along with a staffing structure that would enable quality interactions

between adults and children. To create government policy that would support these changes would require reform and significant funding.

The Labour government of the time had shown some commitment to the improvement of education for pre-school children. They had commissioned and funded the EPPE report and actively moved towards the creation of Children's Centres. During their second term in office, the government brought in a series of policy changes and reforms for children and young people. The number and timings of these changes meant that local education authorities struggled to implement them consistently. This resulted in misunderstandings and uncertainties around expectations and requirements amongst practitioners. The Children's Plan: Building Brighter Futures was pivotal to the government's plans for reform. It outlined the intention to restructure children's services to make them more responsive to local needs and had come about following a series of policy initiatives and reforms. In December 1991, the UK government signed the United Nations Convention on the Rights of the Child which came into force in 1992. As a result of this agreement, they needed to show that they were reflecting this commitment to children's rights within their future policies and practice.

In 2000 the Foundation Stage was introduced. This was a curriculum document that spanned the pre-school education of 3 and 4-year-olds as well as the Reception year which took place in school. It was a statutory requirement for all providers who received the Nursery Education Grant. The Foundation Stage would be replaced in 2008 by the Early Years Foundation Stage (EYFS). Several documents were released, and initiatives that took place between the launch of the Foundation Stage and the release of the EYFS were reflected in its revision, many linked to a government agenda to improve measurable outcomes for disadvantaged children as opposed to promoting effective child development.

In 2003, Lord Laming published the findings of an inquiry that he had carried out into children's services in the UK following the death of Victoria Climbié (Laming, 2003). These findings highlighted a significant lack of cohesion in the management and structure of children's services, including education, and radical reform was needed. The government took up the challenge to instigate immediate reform with two new policy announcements:

Every Child Matters (DfES, 2003) and Every Child Matters: Change for Children (DfES, 2004a). These resulted in the Children Act of 2004 where the government set out to marry the reforms, they were planning at the time with the commitment that they had made to the United Nations Convention on the Rights of the Child (UNCRC). The key aim of Every Child Matters was to ensure that all children got the support they needed to be healthy, stay safe, enjoy and achieve, make a positive contribution and achieve economic well-being.

Every Child Matters (2003) was followed by a series of policy documents and legislation over the next 3 years. In 2004 the government published Choice for Parents, The Best Start for Children: A Ten-Year Strategy for Childcare (DfES, 2004b), which identified the need for highly trained professionals to work in early childhood provision to maximise the potential for success. This view was supported by the recommendations of the Childcare Act of 2006. The government needed to show that it was making long-term provision for sustained success, especially for children from disadvantaged backgrounds. To demonstrate this, it outlined its intentions with the publication of The Children's Plan: Building Brighter Futures (DCSF, 2007). One of the main outcomes of this plan was that the government 'strengthen support for all children and all families during the formative early childhood' (DCSF, 2007 p7). They intended to do that by creating a world-beating education system that would give every child, regardless of start in life, the best education. To do this the government made a commitment to work in partnership with parents to keep them informed and involved in their child's educational journey. They also pledged to create safe environments outside of school to engage children in a range of activities and experiences. The achievement of these aspirations would not only require significant reform to the existing systems but also multi-agency cooperation and integration in a way that had never been done before.

The 2008 Early Years Foundation Stage launched with not only an ECEC curriculum including practice guidance but with standards for services for children from birth until the end of the Reception year. It was divided into six 'areas of learning and development' which contained 69 early learning goals for children to achieve. The content was split into educational programmes for each of the areas of learning and development and culminated in a summative assessment called the Early Years Foundation Stage Profile (EYFSP). This involved assessing children at the end of the Reception Year on 13 scales, each of which was divided

into 9 points. Results of children's attainment in the EYFSP were reported at a local and national level. Although the Early Years Foundation Stage was created to give parity of opportunity to all children, the shift to outcome-driven formal assessment based on an improvement agenda linked to one demographic, as opposed to child development, shaped the future of early years education, the pedagogy of practitioners and the concept of best practice.

The implementation of the Foundation Stage in 2008 was an attempt to put in place some coherent policy, practice and legislation following the emersion of an early childhood sector over the previous two centuries. The Foundation Stage made clear the expectations for specific age ranges, highlighting stages of development and clear attainment of 'goals'. These standards reflected the desire to raise the quality of this sector of childcare and the attainment of children. It is a concern that there is an overreliance on outputs, targets and bureaucracy and no provision for autonomy or the freedom to be creative in the construction of practice that is based on child development, research, and the unique needs of the individual child.

Through this study it will become apparent that due to the prescriptive nature of the Early Years Foundation Stage, in all its iterations, it has constructed a concept of 'best practice' that is not linked to child development, but instead the achievement of prescribed outcomes.

This chapter has taken a detailed look at the journey of early childhood education policies in England, centring on the formation and evolution of the Early Years Foundation Stage (EYFS). It began with an introduction to the EYFS, offering a broad view of the national policy framework for children aged 0-5. The subsequent sections delve into the theoretical foundations that shaped the EYFS, exploring the influences of Froebel, Montessori, Piaget, Vygotsky, and Isaacs.

Spanning from the 19th century to the present day, key milestones and legislative acts that have moulded early childhood education have been highlighted. The narrative has been constructed through diverse discourses, including academic research, ecological theories,

socio-cultural theories, children's rights, and policy initiatives, which collectively contribute to shaping pedagogy and practice. Shifts in educational thinking have been highlighted, including the transformation from historical hygiene concerns to a current emphasis on child-centred approaches. The chapter also explores the influence of changing governments including the initiatives of the Labour government in the late 20th and early 21st centuries. Key research studies, including the Effective Provision of Pre-School Education project (EPPE) have played a crucial role in shaping policy and practice. The review navigates through the introduction of the Foundation Stage in 2000 and its evolution into the EYFS in 2008, culminating in an analysis of the shift towards an outcome-driven formal assessment approach and its implications for practitioners, pedagogy, and the concept of 'best practice'.

Next follows a review of literature that looks at the emergence of New Material Feminist thinking specifically in early childhood settings.

Chapter 2 – Seeing Possibility in Difference

Introduction

This literature review focuses exclusively on studies framed within the conceptual field of New Material Feminism(s) (NMF). It deliberately eschewing broader theories on play in early childhood education. This targeted approach stems from my focus on reviewing studies that enrich our understanding of learning environments through NMF concepts such as relationality, materiality, and the entanglements between human and non-human agents.

The decision not to engage extensively with the broader literature on play is deliberate and rooted in several considerations. Firstly, 'play' as a concept in educational literature often encompasses a vast terrain and is frequently positioned in opposition to 'work' in schools and nurseries, reinforcing binary thinking that this research seeks to move beyond. Moreover, traditional conceptualisations of play in educational settings often rely on humanist framings that centre individual child development and cognitive processes, overlooking the complex material-discursive entanglements that shape children's experiences.

The literature review was conducted to explore how young bodies and matters become inventive in ways that might be conceptualised as learning and so involve more than what is reported in conventional studies of play. NMF concepts provide ways to think about classroom events as fluid, emergent processes rather than discrete, categorizable activities. This approach involves processual ontologies and methodologies with concepts such as ‘intra-action’ (Barad, 2007) that are not usually employed in conventional studies of play.

It's worth noting that play does appear within many more-than-human literatures related to early childhood education. However, by focusing specifically on studies that took NMF methodological approaches, provided a more appropriate literature review for this thesis which aims to work with processual, more-than-human ontologies that expand ways of

thinking beyond notions of play in a humanist frame. This theoretical focus enables an exploration of how children, materials, and spaces co-constitute learning experiences in ways that challenge conventional understandings of early childhood play.

By being specific about this focus, the literature review aims to contribute to ongoing efforts to reconceptualise early childhood education, offering new perspectives on the complex, entangled nature of children's experiences in educational settings. This approach invites readers to consider alternative ways of understanding and supporting children's learning that move beyond the limitations of traditional play-based paradigms.

Although there have been significant changes to early education policy, as Liz Brooker (2005) points out, there has been very little change over the last 300 years to the appearance of how our very youngest children, aged 0 to 5 years, are educated. Children are gathered in groups and given access to ‘toys’ to play with, guided and instructed (taught) by adults. Whilst this is an oversimplification of the practice that is taking place in early education settings, until recently there has been an overemphasis on the role of the child as the ‘learner’ supported by their environment as opposed to the materiality of the environment and the child combining to creating opportunities for intra-action (Barad) and embodied learning.

The earliest paper that is referenced in this review dates from 2006 in which Gallacher explores interactive pedagogy that is grounded in encounters and becoming. This sets the scene for a series of studies that examine the material turn, as seen in McPhie and Clark's 2015 discussion of interconnectedness and haecceities. Theil and Jones in 2017 apply New Material Feminist thinking to informal learning centres, with a particular focus on class-based literacies. Otterstad in 2019 explores the application of New Material Feminist theories in early childhood research, emphasising the importance of noticing entanglements. This narrative can also be found in the literature that is presented that explores diverse topics such as interspecies learning, challenges to traditional care ethics, and disruptive potential in higher education.
Spaces defying logic and ‘hauntings’ become themes later in the review, with Shaw presenting an examination of 'heterotopia' and Bone writing a hauntology-informed study

on the impact of the material world. The literature review concludes with Black Delfin's 2021 study that examines the discursive constructions of gender and material intra-actions in pre-kindergarten classes.

Throughout the writing of this review, several recurring themes emerged. The exploration of interactive pedagogy influenced by Deleuze establishes a foundation and the subsequent material turn, as studies like McPhie and Clark's delves into interconnectedness, ontological immanence, and the conceptual shift from objects to haecceities.

The significance of noticing entanglements and the re-materialism of events surfaces as a recurrent theme which emphasises the need to see the world as interconnected and evolving. The literature review also identifies themes around the importance of space, the idea of 'hauntings', with the exploration of the concept of 'heterotopia' and the impact of the material world, bringing attention to the complexities and potentialities that are embedded in everyday objects.

Finally, the exploration of discursive constructions of gender and material intra-actions in pre-kindergarten classes provides a fitting conclusion, showcasing the continued relevance of New Material Feminism in understanding the intricate dynamics of early childhood education.

New Material Feminism(s) in Early Childhood Education

New Material Feminism(s) is a term that covers a range of conceptual approaches.
The articles, book chapters and thesis extracts that are included in this review have common threads of reference to the theorists that are at the heart of the New Material Feminist movement, many grounded in the work of Deleuze and Guattari who offered theories such as affect, becoming and assemblage that have gone on to underpin the framework of New Material Feminist writing. Bradotti's work offers insights into the post-human perspective. The influence of Haraway can be seen in writing about human-animal relations and Barad who helps us to rethink the role of the researcher and the relationship we have with research design and production, and the relational nature of mattering, knowing and being.

New Material Feminist concepts suggest how a person is entangled with all kinds of matter in dynamic assemblages (Deleuze and Guattari, 2004) and that objects do not precede their interaction, rather, objects emerge through particular intra-actions (Barad 1998). The concept of the intra-action brings a more-than-human perspective which can help adults to view themselves as entangled with the environments, including learning environments. According to processual ontologies, the individual is in a continual process of becoming, so a child cannot be understood if they are isolated from her or his environment. There are times, for example, when a child seems to be immersed within the environment and times when children physically interact with matter (Bennett 2001) around them in moments of embodied entanglement (Lenz Taguchi 2010). A better understanding of the intra-actions that exist within learning environments can maximise the affective engagement of children in contemporary classrooms (Williamson, 2016), and this, in turn, can impact their potentiality.

Although the term New Materialism is not exclusively used in some of the literature that I have found, authors are beginning to explore the underpinning concepts and apply them to children and their learning spaces. Gallacher (2006) takes a retrospective view of how the principles and pedagogy of nursery education have evolved. She aims to conceive of a different kind of 'interactive pedagogy' which is grounded in encounters and becoming. She is particularly interested in how the spaces that we create and the routines that we put into place subjectify children and reduce opportunities for performative and affective pedagogy. She draws extensively on the work of Deleuze and suggests what she sees is a more interactive pedagogy which includes opportunities for children to become entwined in encounters and becomings. She poses a rethinking of the relationship between subject and object, so that both are continually emergent. Through what she describes as a 'strategic history' of the nursery tradition, she explores the interactions between living and non-living things in the nursery and the possibilities that emerge from viewing these relationships differently and, from that, the sort of new pedagogical thinking that would go on to influence nursery practitioners and their practice.

This theme of objects, bodies and space in the classroom environment is also explored by Taylor (2013) although not exclusively looking at early childhood learning spaces. Using

ethnographic data from a UK study, she analyses a series of what she describes as 'material moments', arguing that practices, doings, and actions are often unseen or lost in the current thinking about what and who is important in classroom spaces. She argues for the rethinking of learning environments, emphasising their 'entangled material agencies' (*ibid.* p.1) and the opportunity to reflect on the questions that arise from this renewed perspective and the effect that consideration of those questions would have on pedagogical practices not only for learning but also gender. Taylor (2013) uses diffractive material feminist analysis, examining phenomena by considering the entanglements and interactions between elements that are both human and non-human, looking for patterns of difference within her data. She highlights the embodied practice of mattering, exploring the material multiplicity of the nursery classroom, recognising that at any one moment the space is multi-faceted and multi-purpose, enacting co-constructively with all the matter that is present within it. We cannot think, therefore, of agency as the sole property of the individual: it is brought into being by intra-action between the human and non-human. Taylor (2013), referencing Bennet (2010), introduces the term 'thing-power' (p6) in reference to matter and the importance of noticing that which usually goes unnoticed in classroom spaces.

In their paper McPhie and Clark, (2015) present a fictional walk through a park, viewing it from the perspective of the material turn. Emerging in the 1990s, the material turn looks at the roles that objects play in human action as well as signification. Each of the objects that we encounter on this walk 'demonstrated ontological immanence and the material process of being alive' (p134). They make the point that this process of relational reality underpins every interaction that each of us has with the matter that we encounter in our everyday existence. Rather than being disembodied from the world, our minds are permanently interconnected. The paper reinforces the point that as humans we are 'of' the world, rather than being in it or on it. As early childhood educators, we must see ourselves and the children that we are working with as being 'of' the environments that we inhabit. McPhie and Clarke (2015) question the concept of our environments being filled with objects that interact, relate, and connect to each other, rather we are surrounded by matter that is enactive and transient. They suggest that they are better described as haecceities, which they define as 'a thing's thingness' as opposed to quiddities which are a 'thing's whatness'

(p.240). It is our culture and collective ideology that has caused us to perceive entities as objects with a defined purpose and it is new material philosophies that are challenging these ontologies.

In their study, Theil and Jones (2017), based in the USA, applied New Material Feminist thinking to how children interpret the materiality of objects in an informal learning centre in a multilingual working-class area of Georgia. They look in particular at how objects are used as material-discursive apparatus in the production of literacies, particularly those related to race and class, and how the responses of the participants in the study are inextricably bound by a sense of place, both geographically and sociologically. They focus on 'thing power' and the impact that the materiality of learning spaces has on racialised and class-based literacies for all children who are constantly entangled in material-discursive apparatuses through their play and interaction with the more-than-human. Their approach reinforces the concept that the reconfiguring of materiality within any space creates different conditions of possibility and that in turn encourages children (and adults) to engage in different ways of thinking, doing and being.

The ways in which New Material Feminist theories and thinking can be applied to early childhood research is explored by Otterstad (2019). She offers a view on the politics of critique, using seven co-published articles as data, looking at the concept of intra-actions of all matter. She aims to experiment with what the concept of symbiogenesis can offer, coupled with critical affirmative thinking. She draws extensively on the work of Barad (2007) and Haraway (2016) to expand the notion that relationality as research in early education is not about manufacturing opportunities for entanglement, but noticing the entanglements that are already happening. She suggests we need to notice the movements that children engage in in their intra-actions with space and matter, rather than create opportunities for them to move. Otterstad (2019) challenges some of the historical assumptions of causality, agency and relationality that have been applied to early childhood research. Quoting Barad, she describes her application of New Material Feminist theory as 'an ethics of wording' (Barad 2012:32) and suggests that this could be a way of ensuring that feminisms are seen as transformative and affirmative critiques.

Exploration of multimodal meaning-making of children in two early childhood settings is explored here by Hackett and Rautio (2019). One of the settings that they looked at was in the UK and one in Finland. The paper proposes that children's meaning-making does not involve them as separate actants from their material environment but positions them as deeply intertwined with the more-than-human world. The paper is focused on how children in those settings create meaning through running and rolling. Children were observed and recorded in both settings, and the video was analysed by both researchers using a diffractive methodology. They use Ingold's notion of correspondence, which explores the theory that some of the best ideas come when we think in ways that aren't familiar, usual, or expected, to articulate the interplay between the human and non-human. They also offer suggestions as to how posthuman theory can help to reconceptualise the intentionality of how young children construct meaning from their intra-actions with their environment. The creation of meaning is dependent on the more-than-human world for its articulation and emergence, and it is this engagement between human and non-human actants that results in intentionality. Their study develops the concept that by using a more-than-human lens to view children's meaning-making, we gain access to a unique view of the conditions that shape what appear to be the free and autonomous decisions that children make. Hackett and Rautio (2019) ask what type of 'human-ing' (2019) is available to children in the positions that they currently hold in our society and how can the spaces we create both support and deny their potential to materialise into running children.

In a 2013 paper, Lenz Taguchi, writing in Stockholm, worked collaboratively with 10 PhD students to investigate what kind of researcher subjectivities different accounts produce for qualitative enquiry. Lenz Taguchi draws on the work of St. Pierre (2011) to investigate if feminist research has managed to remove the researcher from the assumed 'I' that precedes the verb 'think'. She goes on to further interrogate current accounts of feminist material, theorising that are trying to address the contemporary critique of social constructionist postmodernism. The researchers who contributed to this paper were actively resisting the assumed research practices that they were familiar with. They discovered that though they were post-structuralist feminist researchers, they were still drawn into the practices that were problematic in getting beyond familiar root thinking. Lenz Taguchi concludes that a rhizomatic view of thought production from within a

Deleuzean ontology of difference, where the concept of difference is foundational, can help researchers consider how they can think differently about qualitative enquiry and how they interpret their findings. Lenz Taguchi (2013) contends that this process should be applied multiple times and not just carried out once, and that research practices must be constantly reinvented.

Taylor and Pacini-Ketchabow co-authored a paper in 2015 using research data from early childhood settings in both Australia and Canada. The paper examined how, by using interspecies learning, early childhood educators could engage with the concept of intergenerational environmental justice. Looking at children's interactions with worms and ants, the researchers used these encounters to show how having the opportunity to pay close attention to the vulnerabilities of other species can help us to understand and rethink how we are situated in the world. Using field notes and video data, Taylor and Pacini-Ketchabow (2015) examined the different types of learning that occurred. They also wanted to push past the educational paradigm that exists where educators are preoccupied with the development of the child in an exclusively human context, positioning them exclusively at the centre of all aspects of their learning. Instead, they interrogated ways in which children benefit and learn from their engagements and entanglements with other species, entities, and material forces in the world they inhabit. The result of their research encourages us to challenge ways in which we address children's relations and consider more-than-human socialities in our pedagogies and research that decentre the human, allowing us to become enmeshed in encounters of mutual vulnerabilities.

A study of interdisciplinary arts practice in two London universities in 2016 by Hickey-Moody, Palmer, and Sayers, although not situated in an early childhood environment, gives some great insight into the disruptive and generative potential of adopting a type of learning where materiality and entanglement are considered as essential components. Using their combined knowledge and experience of teaching in this sector, the paper acknowledges that it is impossible to separate the student from the environment and the other objects that are within it. Through their embodied research practices, they reported that students began a process of unconscious change which affected their imaginaries of university education. Central to the research presented in this paper are the kinds of

problems that arise when bodies are involved in the generative process of mattering. There is a risk that they become restricted by their fear of what is made to matter. There is also the argument that embodied creative processes can extend opportunities for those engaged in learning, allowing them to find expression other than the stereotypical construction of their identity as a learner. Using a new materialist feminist lens, the authors challenged some of the expected ways of being a student and a teacher in university, focusing on the inseparability of theory, practice, and matter. They discuss how new materialism offers an opportunity to redefine animacy in human and non-human relationships, showing that knowledge can be seen as contingent and immanent. They conclude that the potential to create, produce, embody and theorise simultaneously can be realised through embodied self-expression and intra-action across multiple media boundaries. Diffractive pedagogical approaches to both teacher, teaching, learner and learning show it is impossible to separate the teacher from the student and the body from the environment. It is through these approaches that educators can impact students' imaginaries of education.

In her 2017 thesis, Shaw examined the concept of 'heterotopia', defined as spaces that defy or contradict expected logic or reasoning, in early child education in the United Kingdom. Using participant observation alongside what she describes as a 'broadly ethnomethodological approach' (p.4), Shaw used her field notes collected in six early years settings over four years. She articulates the notion of early years spaces that are a recognised and accepted part of the UK education system whilst at the same time sitting outside of a lot of current thinking and understanding of child development. She engages with a range of educational truths and hold them up against expressions of pedagogy and articulations of early years practice, looking at the hidden discourses that exist in early years education. She concludes that there are enduring tensions for practitioners in terms of what policy requires of them and how that fits into their practice and that we need to re-evaluate what we truly mean by 'enabling environments', considering the complex relationships that exist between, theory, research and practice. This, she argues, will present new possibilities for practitioners to articulate and enact effective early years pedagogy.

An article in 2017 by Aslanian that investigated the complex care relationships that exist between children and early childhood educators applies a feminist care ethics and posthuman perspective to an ethnographic study of a full-day early childhood care centre in Norway. This approach challenged many of the male-centric theories around care and the feminised role of the carer whilst also appreciating the inescapable impact of all matter in human and non-human interactions. The children observed were under three years old. Aslanian (2017) suggests that rather than a series of individual interactions between adults and children, care should be seen as a collective practice where the material and the social environment work together, educators actively entangled with their environment in a constant process of becoming. This challenges the traditional view of care being learnt and practised skills, knowledge, and modes of responding to young children. She concludes by reinforcing the need for early childhood educators to examine their everyday practices and look at care as a professional practice beyond the dyad. She describes early childhood care as a 'cooperative, intra-active, social, material and organisational practice' (Aslanian, 2017:324) which is malleable, constantly changing, but never returning to its original shape. In that respect, care is cooperative, shaped, and transformed by the materiality of the environment and the engagements and entanglements that constantly occur within it.

In their 2017 article based on research conducted in Toronto, Springgay and Zaliwska expand on some of the existing contributions from feminist new material scholars, particularly around the concepts of pedagogy and the politics of attunement. They use analysis of food-related performance art to expand theory. Although not specifically focusing on early childhood education, the paper surfaces many of the concepts that underpin my study. Springgay and Zaliwska (2017) focus on affect and rhythm as the two main concepts that support them in their elaboration on the pedagogy and politics of attunement. Their article aims to draw on existing research around attunement to force us to consider pedagogy differently, as a process that is constantly in transition. Their work encourages us to embrace a constant state of learning to be affected. They conclude that learning to be affected and attunement are reliant on each other. Using food and the act of eating as an art form illustrated the power that exists in challenging behaviours or actions that have become habits. This acknowledgement of materiality offers the potential for these habits and actions to be seen as 'other'. This in turn enables us to recognise what has

previously been hidden. Springgay and Zaliwska (2017) argue that when we allow ourselves to become affected, in that moment, pedagogy comes into being by a coming together of several realised compositions of expression.

In 2019, writing in Australia, Bone produced a paper that examined the impact of the material world, particularly chairs, in early childhood education. Bone (2019) uses the theories of New Material Feminism to expand some of her existing work around the 'ghosts' that haunt educational spaces. Her writing is informed by social and cultural theory known as hauntology, which she pairs with new materialist theory. Bone describes her methodological approach as diffractive and intra-active. She takes the example of the child-sized chair, which is a very common feature of early childhood education settings and shows how its 'taken for granted' status can become problematic when it is viewed from different perspectives. Using personal examples of being haunted by objects from the material world, she applies materialist theory to articulate the complexities and opportunities presented by an awareness and appreciation of the entanglements that are taking place with each intra-action. Bone's (2019) paper begins with a description of a chair that had become 'part of the furniture' but expanded into a consideration of the 'hauntings' that each of us brings to a particular object because of our prior experience of it. When these hauntings go unrecognised, unchallenged, and unquestioned, the ghosts remain unchanged. But, when we acknowledge our orientations towards our ghosts, we can challenge their meaning, attempt to understand them, and disrupt the idea that we need to carry on doing what has always been done.

In 2020 Canadian scholars Whitty, Lysack, Lirette, et al. challenged some of the current practices and rationales for early childhood education which they describe as 'thrownto gether ness'. They define 'thrownto gether ness' as the opportunity for thinking that occurs when different people with different experiences and circumstances are 'thrown together' for a common cause, in this case, early childhood education. They attempt to knit together alternative ways of being and doing, using feminist theory and the concept of spatial networked discursive entanglements. To enable them to illustrate their thinking, they examine three vignettes that articulate the struggle they are experiencing. They aim to produce new terms of belonging by interrogating the accepted rhetoric and opening up new

ideas and space for thinking by telling alternative stories that could create real and impactful change. They conclude that it is important to recognise and acknowledge our situated knowings and how we create meaning from matter. Also, the work of the educator and education system is never complete. Rather than seeing this as a frustration, the perpetual incompleteness can bring possibility and hope. Whitty, Lysack, Lirette, et al. (2020) contend that there is great joy that can arise from unpredictability and lack of trying to control. Ultimately, opening up to the possibility of the impossible can help to free our thinking and understanding, and when we connect with others who think in that way, we can find solutions to the 'thrownogetherness' that exists around us.

A research paper written by Juutinen and Viljamma (2016) explores how values are communicated in preschool and considers children's opportunities to experience materiality in their learning spaces. This narrative enquiry involved 20 children aged 3 – 4 in one Finnish preschool and 5 of the practitioners over 18 months. The researchers gathered their data through observations, field notes and video recordings. The focus of the data collection was on how practitioners in preschool settings used a chart that represented traffic lights as a pedagogical tool. The chart was used to control many aspects of children's involvement activities. The green light signified that the children were allowed to go and play. The amber light signified that it was almost time for the children to stop what they were doing, and the red light signified it was time to stop and tidy up that activity. The researchers wanted the adults in the setting to reflect on the pedagogical implications of this practice and be more aware of the ethical aspects and impact that systems like this can have on children and their meaning-making processes. They also focus on how values are communicated through cultural, material, and social environments and, specifically, what values are communicated around the use of traffic lights. This is explored through the process and context of how, where and when the traffic light system was used and how, in turn, meaning is made in the preschool environment. The study shows that values are tightly intertwined with materiality and that there is great personal, social, and cultural meaning attached to the traffic lights by both children and adults. The lights had started as an adult-controlled mechanism to notify children of time, routine, and expectation, but had become an opportunity for children to construct their meaning, questions, imagination, and logic. One child asked what colour light would show when it was sleep time, as at sleep time all of the lights should go out.

Another said that he was a superhero and that superheroes only stop jumping when the red light is on. The adults in the setting reported that the opportunity that the research project had given them to tell and retell the stories of their everyday practice had allowed them to become more aware of the ethical aspects of early childhood education, and they were also able to reflect opportunities that children are given to interact with the materiality of the space they inhabit.

In a 2017 American study, Mazzei and Jackson explore how 'voice' is constituted in educational enquiry. They take a posthumanist approach and position 'voice' in a space that is a composite of a complex network of human and non-human agents which challenges the view of the individual as central to communication. The paper aims to illustrate how the posthuman voice is bound up within a complex agentic assemblage. It explores questions such as what happens when the voice is more than just language and more than just vocalised words. If the materiality of voice Is not limited to sound, for example, they ask, how do we account for it? How might we locate the materiality of voice in a human and non-human object? All these considerations have implications for different thinking around qualitative methodology in education. Mazzei and Jackson (2017) conclude by putting forward the idea that voice is something that 'becomes' in an entangled intra-action with other agents. This moves away from positioning voice as the deliberate spoken word of an individual. They end their paper with three points that need further interrogation. Firstly, thinking about voice in this way takes us away from being able to simply analyse what is said by an individual during research; we also need to consider the spatial and temporal dimensions of voice. Secondly, if we choose not to accept voice in isolation as an accurate account of a participant's experience, then this sort of data analysis no longer provides a representational account. Finally, representing a posthuman voice in research also requires us to rethink interviewing techniques. What is said using the voice is only one source of knowledge, but entanglements are never singular. Interview practice needs to notice how all the elements are entwined together to give a more complete picture.

In their collaborative paper written in 2019, Osgood and Andersen examine some of the ways that children experience and are affected by real-world issues, specifically in the UK and Norway. The authors take two news events: the Grenfell Tower fire tragedy in London

in 2017 and the 2018 Marjory Stoneman Douglas High School shooting in Florida. The aim is to see how affects materialise across multiple times and spaces. Osgood and Andersen (2019) used the work of New Material Feminist scholars that particularly focused on affect and materiality. They set out to map how human entanglement and the process of becoming are prompted and captured by children's news media and how it matters. They draw on the concept of 'worldling' offered by Haraway (1994, 2008, 2013, 2016) and Stewart (2007, 2010, 2014, 2017), amongst others. Worldling is a combination of the material and the semiotic which blurs the boundaries that exist between the subject and the environment. They went into the research with the anticipation that making matter a focus for their engagements with children would lead them to unanticipated directions and alter their ways of thinking; how might the re-materialism of these events lead researchers to think differently about other aspects of child development? Rather than allowing ourselves to get stuck in the familiar, we need to seek a different way of doing. Throughout this paper, the authors challenged the image of children being too young to engage in the discussion of difficult subjects. They reinforce the importance of not falling back into familiar ways of knowing. They conclude that if we constantly re-evaluate and re-appraise our image of the child and acknowledge their material-semiotic entanglements with the world, then we will be able to do things differently and be open to learning with and from them.

In 2021 Black Delfin published a study that explored discursive constructions of gender and material intra-actions in two pre-kindergarten classes in America. Using a naturalistic approach and applying a feminist post-structural lens, the study took place in two classrooms with children who were aged 4 years old. Both classrooms had been identified as 'high quality' early learning settings. The study was carried out over 12 weeks and the data was recorded in field notes and interviews with four staff. The article examines the material and discursive influences that were present in children's dramatic play, particularly examining what adults perceived to be 'acceptable' story arcs in children's free play concerning gender and gendered roles. In applying a feminist post-structural framework, Delfin (2021) considers how children's representations of gender and gendered roles in dramatic play were often a result of the material play resources the adults had provided and felt to be acceptable. Her research highlights the important role that children's intra-action

with objects and non–human agentic matter had on the outcomes of their play, but specifically in this study, on their concept, understanding and articulation of gender.

Summary

The objective of examining the existing body of literature was to contextualise the current study, framing it within the realm of New Material Feminism and early childhood education. This exploration illuminates how New Material Feminist concepts have been introduced and utilised in previous studies within early childhood education, what new methods were used and what findings emerged that would not have been visible if conventional research methods and concepts were used.

By examining this body of work, the review suggests that embracing these dynamic ontologies in the field of early childhood education can reshape our understanding of learning environments. This paradigm shift allows for the development of an alternative gaze by adults that recognises and values the more-than-human, underpinned by the work of scholars like Lenz Taguchi and Barad. This review, therefore, serves as a foundation for the current study, fostering a deepened comprehension of the possibilities and perspectives that emerge when New Material Feminist concepts are applied to early childhood education research.

It also enabled the identification of opportunities for meaningful contribution to this field of study. From the review of the literature, the gaps that became apparent served as insights that shaped the formulation of the following three research questions:

1. What more comes into view when concepts from New Material Feminisms are used to observe classroom life?
2. What disrupts children's self-initiated and directed classroom play?
3. What kinds of learning related to playing takes place (sometimes outside of the teachers' awareness)?

The following chapter outlines the methodology and methods that underpinned this research project.

Chapter 3 – Methodology

Introduction

In this chapter, the rationale behind choosing a research paradigm aligned with New Material Feminism is discussed, along with why ethico-onto-epistemology emerges as a guiding concept that emphasises the inseparability of ontology, ethics, and epistemology in this research process. There is a description of the ethnographic approach that was used outlining its immersive nature and the processes involved in the collection and diffraction of field notes.

Detailed information about the schools that took part in the research study, including demographics, educational approaches and a timeline is outlined for context.
The study evolved over time and this evolution, and the resulting revised design is explored along with the outcomes of any changes of direction.
This methodology also delves into the ethical considerations and procedures that were put in place to ensure that there was a dynamic approach to ethics throughout the research process.

In a section covering the undertaking of the fieldwork, the ethico-onto-epistemological stance is emphasised for navigating the ethical complexities inherent in the research environment and practical aspects of fieldwork, such as note-taking strategies, participant introduction, and informal discussions with teachers, are discussed.

The use of diffractive analysis as a tool is explored, including the process of recording moments of 'sticky data' MacLure (2013) taken from fieldnotes.

The chapter concludes by acknowledging the researcher's positionality as an insider and outsider, emphasising the inevitable blurring of personal experiences with the research process.

Design of the Study

The problematic

This project was not just about observing, but also co-creating understanding of what takes place in Reception classroom events, often outside of the teacher's gaze. Collaborating with two reception teachers from different primary schools, each with their own unique pedagogy, adds a layer of diversity to this research. The real struggle appears to lie in breaking free from the conventional boundaries of pedagogic practice and establishing a co-creative space where teachers and children can collectively explore an environment where collaboration, inspired by more-than-human perspectives, can flourish. This problematic has been encapsulated in the following research questions;

1. What more comes into view when concepts from New Material Feminisms are used to observe classroom life?
2. What disrupts children's self-initiated and directed classroom play?
3. What kinds of learning related to playing takes place (sometimes outside of the teachers' awareness)?

Methodology

In arriving at the choice of which research paradigm would align best with this study, Positivism emphasises the observable and measurable phenomena but does not acknowledge the complex entanglements and agential cuts (Barad 2007) inherent in the more-than-human context that this study explores. While an interpretivist approach focuses on the understanding and interpretation of human behaviour and social phenomenon, which feature heavily in my research, it did not offer any scaffolding around non-human agencies and the nature of agency within phenomena. The critical theory paradigm, while valuable in addressing issues of power, inequality, and social justice, focuses more on a human-centric analysis of social structures. This does not take into account the subtle and often intricate entanglements that exist between human and non-human actants that are explored in this study. Those three paradigms were rejected as they did not align as well with New Materialist Feminisms and a more-than-human perspective, which are

foundational to this study's exploration of entangled intra-actions, diffraction, and the continuous becoming of phenomena.

It was Fenwick's (2012) interpretation of the social material paradigm that offered a framework to explore the dynamics of what was being seen in the Reception classrooms in this study by embracing a more-than-human perspective. This paradigm encourages the researcher to look beyond pedagogies that focus on the individual and instead identify events that occur in the classroom space and recognise the many and varied assemblages that occur within those events. The aim of this research is to develop a praxis of observation that diffracts through the social material paradigm, giving a much deeper and more comprehensive understanding of the relationships between all the components that make up a learning space and producing a more socially and materially embedded approach to learning.

Ethico-onto-epistemology

Ethico-onto-epistemology, first introduced by Barad (2007), is a philosophical concept highlighting the inseparability of ontology, ethics, and epistemology when carrying out research. At its centre, ethico-onto-epistemology examines the relationships between what exists (ontology), how we come to know it (epistemology), and the ethical implications that arise from these processes.

Ethico-onto-epistemology emphasises the inseparable connection between the researcher and the subject being researched. In the process of carrying out research, we must acknowledge that the researcher is constantly influencing and shaping the research. There is no rigid separation between the two. In choosing to look at one particular element within the research there are infinite other elements that remain unseen. There is therefore an ethical component to our research that requires us to acknowledge that we can never be neutral in our views. Every assumption or observation that we make carries ethical implications. Therefore, we must question not only what we know, but how our knowledge impacts the ethical implications of our subsequent actions.

Our knowledge cannot be separated from ethical responsibility, challenging us to constantly evaluate what we know and how that knowledge shapes our ethical actions and responsibilities. The concept of 'ethico-onto-epistemology' supports, and challenges, the adoption of an approach to ongoing research that acknowledges that personal perspectives shape observations and have implications for ethical considerations about what is being seen. Phenomena only come into view according to the research instruments and discourses that we use, so we can never get back to any essentialist notion of reality. Agential cuts are a key feature of Barad's framework that explain the simultaneous act of cutting together and apart the phenomena that is being observed. When the world is 'cut' during the reporting of the incidents that hold significance for the researcher, they know that they are being partial and that there are many other ways that the world could be cut.

The world that is being observed is continually unfolding through the intra-active emergence of agencies within phenomena, allowing the researcher to explore the complex and interconnected relationship that exists between ethics (moral principles), ontology (the nature of being or existence), and epistemology (the nature of knowledge and how it is acquired). Thinking in this way highlighted many of the preconceptions that my experience as an early childhood educator had brought to my research and helped me not only to recognise them but to blur their boundaries, enabling me to see how deeply intertwined my observations and interactions were with the spaces I was inhabiting.

Transitioning from the intricate interplay of ethico-onto-epistemology to the realm of ethnography highlights the fluid and responsive nature of research methodologies used in this study.

Ethnography

Ethnography is a qualitative research approach that involves the study and detailed description of a specific social group, community, or culture. It typically includes immersive fieldwork, where the researcher actively engages with the subjects in their natural environment over an extended period. The goal is to gain an in-depth understanding of the cultural practices, behaviours, and social dynamics within the chosen community.

Post-qualitative research represents a departure from traditional qualitative methodologies, emphasising a more dynamic and reflexive approach. MacLure's (2013) work challenges the conventional norms of ethnography, urging researchers to move beyond documentation and actively seek data that captures their attention or ‘glows’ in the research process. From MacLure's post ethnographic perspective, wonder emerges from the entangled relation of data and researcher. This then disrupts the more process-driven search for meanings and patterns. MacLure’s work enables us to acknowledge moments where elements of data have significant meaning to the researcher, appearing to reach out to them, confounding any efforts to impose structure or order. This approach has allowed for the discernment of patterns within the data but enables the capturing of moments of significance that could not be represented in a more structured process. In a post-qualitative framework, this reflexivity becomes crucial, as researchers acknowledge that their presence and the tools they employ impact the interactions observed and, consequently, shape the outcomes of the study. This approach aligns with a more fluid and responsive understanding of research, moving beyond fixed methodologies to embrace the complexities and nuances inherent in the research process.

During the initial two-month phase of participant observation in two Reception classes (detailed below), the focus was on acclimating to the environments and developing the capacity to identify events with affective resonance. Fieldnotes were utilised to document these occurrences, employing a lens informed by New Material Feminist concepts. Special attention was given to instances characterised by a glow, drawing inspiration from MacLure (2013). Using embodied presence within the classrooms, I sought to discern events where children appeared immersed in learning experiences that could be conceptualised as moments of 'enchantment.

Schools

My ethnographic observations were undertaken in two Reception classes in two contrasting primary schools. I wanted to focus on Reception age because it is at the end of the Foundation Stage where a summative assessment of children’s progress is made, so

teachers can feel great pressure to produce academic outcomes. I approached the two schools to be involved in my research because they promote different styles of Early Years practice: one describes themselves in their prospectus as 'play-based', the other as 'grounded in the teaching of the basic skills'.

Two schools participated in this research project, for the sake of anonymity, referred to as Oakfield Primary and St John's Primary School.

School Details

Oakfield Primary	
Age Range	2-11 years
School Type	Community
Gender Type	Mixed
Capacity	480
Free School Meals Eligibility	48.3%
Urban/Rural	Urban Major Conurbation
Reception Class Data	
No. of Children	27
Boys/Girls	14/13
Ethnicities	White British, Iraqi, Pakistani, Indian, Italian, Irish, Chinese, Polish, Jamaican, Syrian
Free School Meals	33%
SEND	7%

St John's Primary School	
Age Range	3-7 years
School Type	Community
Gender Type	Mixed
Capacity	222
Free School Meals Eligibility	9.9%
Urban/Rural	Urban Major Conurbation
Reception Class Data	
No. of Children	30
Boys/Girls	18/12
Ethnicities	White British, Black African, White and Black African, White and Black Caribbean
Free School Meals	7 %
SEND	10%

The first phase of participant observation lasted for 2 months and gave the opportunity to attune to the environments and find out if I could train myself to recognise events that have affective resonance. I used fieldnotes to describe these. I particularly paid attention to moments that glow (MacLure 2013), using my embodied presence in the classrooms to discover events in which children seem to be immersed in experiences of learning that might be described as 'enchantment'.

Development of the Design

The development of my research design was marked by several significant challenges and realisations. Initially, I had planned to use video recordings as a basis for discussion with teachers. By showing them clips of activities that had taken place in their classroom, I had hoped to engage them in conversations to elicit what they were recognising and paying attention to. The idea was that gradually, over time, our conversations would enable me to suggest alternative to view events. My aim had been to help the classroom teachers to shift their gaze and perceive classroom interactions from a new perspective. However, when I

first shared video footage with the teachers, their responses suggested how their gaze was highly influenced by learning goals outlined in guidance documents. It became clear that shifting this gaze was not going to be possible within in the time frame of the study.

When viewing the video recordings, teachers often focused on familiar aspects of classroom management and curriculum delivery. For instance, one teacher commented on a child's ability to follow instructions, while another noted how an activity aligned with specific learning outcomes. These observations, while valid from a traditional educational standpoint, didn't align with the new perspectives I was hoping to introduce.

I had to remind myself that when I viewed the video footage, I did so with the benefit of extensive reading in posthuman concepts. This theoretical grounding allowed me to see the complex intra-actions between children, materials, and spaces – as dynamics that were often invisible to teachers trained in a conventional educational lens. For example, where I saw the agency of materials shaping children's experiences, teachers might see only the children's actions and choices.

The teachers, not having benefited from the same theoretical immersion that I had, viewed the footage through a lens shaped by policy directives and traditional pedagogical approaches. This led them to focus on aspects such as individual children's behaviour, achievement of predetermined learning goals, and adherence to classroom routines. I came to realise that if I wanted to introduce new ways of looking at their practice, I would need to provide them with tools to think and see differently, an aspect that would have required considerably more time than I had planned. This realisation led me to adjust my expectations, recognising that teachers' responses would range from curiosity to resistance if I were to introduce them to new concepts.

Additionally, the use of video as a research tool presented its own set of challenges. The act of recording interfered with my ability to attune to the classroom space, a process that required significant practice and presence. Focusing on capturing specific actions through the camera lens often meant losing sight of the broader, more subtle intra-actions unfolding

in the environment. The camera's presence also altered the dynamics of the space, potentially influencing the very phenomena I was attempting to study.
I found it challenging to think with NMF concepts as I was viewing classroom events in order to shift my gaze. Furthermore, my presence in the classroom required a delicate balance, respecting the teachers' immediate concerns and professional expertise while trying to think with NMF concepts and record classroom dynamics.

Research Journey

As I began this research journey, I initially considered sharing my fieldnotes and discussing New Material Feminist (NMF) concepts with teaching staff. However, I quickly decided against this approach for several reasons. Ethical considerations, time constraints on already busy teachers, my own evolving understanding of NMF theories, and the desire to preserve the natural classroom setting all factored into this decision. Instead, I focused on using NMF perspectives to inform my own observations and analyses, without attempting to directly influence or change teachers' practices. This approach allowed me to maintain the integrity of my research focus while respecting the teachers' professional autonomy and the existing classroom dynamics. The tension I experienced was primarily internal, as I navigated seeing familiar practices through this new theoretical lens while acknowledging the practical realities and established approaches within the classrooms I was studying.

Timeline

In the first two months of the project, I visited both settings that had agreed to take part, so that I could familiarise myself with the space, children and teachers. During this time, I made some field note observations, but spent the majority of my time talking to the children so that I became a familiar visitor to the classroom, thereby keeping any disruption that my presence would cause to a minimum.

The second phase of the project took place over 8 months and during this time I visited each school alternately, carrying out observations and recording these in my fieldnotes.

Project Timeline

In the following section, the focus shifts towards an exploration of the ethical considerations that were entwined with the research process, focusing on the intricate interplay between the researcher, participants, and the ethical frameworks guiding the study.

Ethics

Compliance with GDPR, MMU and BERA ethical guidelines (2018) were followed. Pseudonyms for the sites and participants involved were used to ensure anonymity. Gatekeeper permission was sought from the parents/carers of any child involved in the study. Permission was also sought from the headteachers for research to be carried out in their schools. The Reception teachers directly involved in the research also completed a permission form. Copies of those documents can be found in Appendix 1. After ethics approval was obtained from my institution, the first set of participant observations and discussions took place for 2 months in the summer term of 2021 followed by a series of observations and discussions over the subsequent 8 months, beginning in September 2021.

Throughout the research project, Ethics was approached as a dynamic process rather than a mere procedural checklist, maintaining ethical reflexivity at every stage. To maximise the likelihood of achieving this outcome, the concept of ethico-onto-epistemology, as articulated by Barad (2007), was employed. Ethico-onto-epistemology, within the context of this study, involves the recognition and intertwining of ethics, ontology, and epistemology. The term 'ethics' is understood to refer to the values guiding the entire research process. It reflects a

commitment to be always responsible and respectful within all engagements. Ontology explores the nature of being. The researcher acknowledges that they are not detached observers but are a constant part of the research context. A relational and responsive approach to knowledge production is acknowledged through epistemological acknowledgement.

Throughout each visit, ethical considerations were at the forefront of the researcher's practice, resulting in a conscious effort being made to ensure that no harm was done. This was achieved through the recognition of the potential effects of the researcher's presence in the space, understanding that teachers might perceive judgments or experience shifts in their interactions due to the observational gaze and that children may respond differently due to the presence of another adult in the space. As previously indicated, this ethico-onto-epistemological stance aimed to navigate the complexities of the research environment with sensitivity, accountability, and a commitment to fostering a collaborative and respectful space. Additionally, it acknowledges that the researcher's presence may well have caused unseen or unexpressed effects, further emphasising the importance of ethical reflexivity.

Undertaking the Fieldwork

Field notes were recorded in a notebook. The conscious decision was made not to have the notebook visible when in the environment if the children were in periods of free play. This was done so that the book did not create a distraction. A space was located in both classrooms where the notebook could be placed so that it was out of the eyeline of the children. It was accessed periodically to record thoughts or specific events that had been seen or heard. On occasion, when the children were gathered together with the adult and observation was taking place from a distance, the notebook would be used to record events as they were happening.

I was initially introduced to the children in both schools as 'Alistair'. The reason that was given for me being in the classroom was that I was coming to spend some time in Reception to see what Reception children did and the sort of games that they played. None of the children ever asked me if I was a teacher. In both schools, I encouraged everyone to address

me as "Alistair" rather than using formal titles. This approach differentiated my role as a researcher from that of regular school staff. Using my first name helped create a more approachable presence, encouraging natural behaviours from children who might perceive me as less of an authority figure. It also signalled to staff that my role was distinct, reinforcing my position as an observer rather than a participant in typical school routines. This strategy was intentional, designed to facilitate more authentic observations and maintain a unique position that bridged the usual adult-child divide in the school environment.

I engaged in ongoing informal discussions with teachers during my research visits and I recorded the results of these in my field notes. Due to the pressures of time and availability of the practitioners in both schools, the initial idea of formal recorded discussions and practitioner journals did not prove practical.

Diffractive Analysis

Over the eight months that I carried out my research, I recorded hundreds of 'moments' in the Reception classroom's daily life, many of which I have been drawn to return to re-read, re-live, attempt to unpick and then reconstruct. MacLure (2013:663) would refer to these pieces of writing as 'sticky data', as they resonate with the researcher, calling them back to revisit them repeatedly. This data makes us feel something that not only sticks in our head because of its significance but sticks like a 'bone in the throat' (MacLure, 2006:729), giving us a sense of nagging discomfort that we need to resolve by looking at them in several different ways, in the hope that they will bring us a new understanding of adults and children in the Reception classroom. In the following two chapters, I have chosen six of those 'moments' to revisit and interpret using theory.

Detailed field notes were used to capture hundreds of instances of children's interactions with objects and space within the two Reception classrooms that were part of the project. During the entire research period, and beyond, I engaged in an iterative process of reading and re-reading the data, discussing it with my supervisory team and diffracting it through the theoretical lenses that featured in my literature review and my further reading.

As I refined my observational skills, certain moments from the field notes emerged as recurring focal points. Drawing inspiration from scholars like Stern (2010) and Bennett (2010), particularly Stern's concept of vital affects and Bennett's exploration of the power of enchantment, I re-evaluated these instances. What MacClure (2010:282) aptly refers to as data that starts to 'glimmer, gathering our attention' also resonates with Massumi's (2002) notion of 'event'. In this context, an event goes beyond a simple happening, it becomes an interplay of forces, sensations, and perceptions. It is these events that 'glimmer' that stand out within the vast collection of field notes that were taken and have also been chosen to feature as part of this research.

To emphasise the ongoing and dynamic process through which I observed the events of the Reception classroom being actively constructed, I referred to Manning's (2014) conceptualisation of 'worlding'. Worlding involves the constant interplay of elements, such matter, affect and movement, acknowledging their active contribution to the creation of new worlds. Worlding helped me to articulate the entangled relationships between children, objects, and space, illustrating how each event within the Reception classroom contributed to an active, co-creative process.

Positionality

My life experience and perspective are intricately woven into my research, embracing the entanglement between who I am and the exploration I undertake. As a white British male in my mid-50s with a diverse professional background, from teacher to headteacher and now an early childhood education consultant, I bring a rich tapestry of experiences to my work. My identity is deeply rooted in being an educator, and this has significantly shaped my beliefs and approach to impactful early childhood education.

As an insider and outsider in my research, I draw from my extensive background to bridge theory and practice. This connection is not just theoretical; it has practical implications for classroom practices. My experiences as an educator have instilled in me a commitment to self-awareness throughout the research process. I also acknowledge that I will have inherent biases that have arisen from my experiences as an educator. These unconscious

prejudices will undoubtedly shape my perspectives. Awareness of this prompts a deliberate and ongoing effort to critically examine my own viewpoint.

Summary

This chapter has highlighted the research paradigm used within the study, rooted in New Material Feminism, with a focus on ethico-onto-epistemology. Ethical considerations, diffractive analysis, and the researcher's positionality as both an insider and outsider are represented throughout the narrative.

The rejection of traditional paradigms in favour of a more-than-human perspective is highlighted, aligning with the study's exploration of entangled intra-actions. Also, an ethico-onto-epistemological approach challenges the researcher's neutrality and emphasises ethical responsibilities in research-based knowledge production. A post-ethnographic perspective provided by MacLure (2013) supports the disruption of more conventional methods of data collection and analysis, emphasising a more fluid and responsive approach to research. The chapter also traces the evolution of the research project through the use of diffractive analysis which uncovered the active and co-creative processes that occur in Reception classroom events. The examples from the field notes chosen to feature in this study shed light on the emergence of assemblages in the Reception classroom, revealing the dynamic interplay among space, actants, and objects. Throughout the research, a particular fascination grew around how children engaged with 'vital affects' and moments of 'enchantment'. This enabled the recognition of patterns of behaviour and expression in children's events, notably, when adults disrupted the vital energy, preventing its natural peak and dissipation. This resulted in negative behaviours that manifested themselves in a variety of ways. This phenomenon became a key focus of the research which features in the empirical chapters of this thesis. In Chapter 4, three vignettes are presented that illustrate what occurs when children's vital energy was interrupted by an adult. In Chapter 5 this is contrasted with three examples showcasing what was observed when children's engagement was allowed to unfold naturally, and their vital energy was enabled to reach a natural conclusion. This research captures the insights that were gained through shifting of the researcher's gaze whilst attentively observing events that occurred in the Reception

classroom, offering a nuanced understanding of what more we can see when we pay attention and view children's intra-actions through a different lens.

Chapter Four: Halting the Vital Energy (mid flow).

Structure of Empirical Chapters

The following accounts presented in Chapter 4 and Chapter 5 are based on diffracted examples from fieldwork notes. It is acknowledged that there were many diffractions that took place in the process of presenting the final accounts including the presence of the researcher in the classroom, the initial perception of the researcher recorded as fieldnotes and the revisiting, reflecting on and amending of those field notes.
Throughout these chapters, I will draw on events that stood out to me as 'sticky data' (MacLure 2016 p 400); moments that stayed with me as I observed children's play in two Reception classrooms, that relates to the research problematic. These events 'glowed' for me because they highlight the role materiality, such as walls, furniture, toys and other materials (such as sand) become players in children's everyday interactions and practice in the Reception classroom. I became aware of how materiality affects the type of play that is supported by adults because it is recognised as being 'valuable' and limits many others that are seen to have less worth.

These vignettes have been created to articulate the transformative potential embedded within classroom events. The diffractive accounts that put New Material Feminist concepts to work shed light on the entangled relationships between space, objects, and children's lived experiences. These events were then diffracted through concepts used by key theorists and scholars such as Stern and Bennett. Stern's concept of vital affects will illuminate moments of intensity and resonance, while Bennett's exploration of enchantment will help to articulate the profound connections between the material world and affective experiences. Additionally, the lens of the more-than-human perspective will be threaded through the accounts, unravelling the entanglements of human and non-human agencies within the Reception classroom. The work of Stern (2012), Bennett (2016) and Lenz Taguchi (2010).
Daniel Stern (2012) provides concepts to explore how as children become engrossed in play vitality intensifies and seems to carry them along as bodies, objects and spaces interact. At

times it seemed that objects were ‘acting back’ (Lenz Taguchi, 2010). Bennett (2016) brings draws attention to the role that matter.

I use Stern’s concepts of forms of vitality as they have been diffracted through a Feminist New Materialist lens, and specifically Erin Manning (2016). Manning engages with Stern's ideas, especially those related to affect and relational dynamics, and re-contextualises them within a more-than-human framework. She acknowledges Stern's contributions to understanding the embodied and affective dimensions of experience, but she also pushes these ideas further by considering the role of non-human actants in shaping forms of vitality. She writes, "Stern's work is invaluable for its attention to the microphysics of experience, but it remains within a framework that privileges the human. What I am suggesting is that we need to expand our understanding of the relational to include the more-than-human" (Manning, 2016, p. 132). By diffracting Stern's concepts through a Feminist New Materialist perspective, Manning (2016) reconceptualises notions like affective attunement and intersubjectivity as emergent properties of complex assemblages that include both human and non-human agents. Manning's use of Stern's work helps to expand our understanding of the relational dynamics that shape learning, emphasising the flows of energy and vitality that permeate classroom spaces. This approach allows us to perceive the classroom as a vibrant ecology of affective intensities, where learning emerges through the interplay of bodies, objects, and environments. Stern's work, when viewed through this lens, enables us to pay attention to the subtle, often non-verbal manifestations of vitality in classroom events. By attuning to these affective intensities, we can recognise how moments of engagement, curiosity, or resistance are not solely human experiences but are co-produced through intra-actions with the material world. This perspective enriches our understanding of early childhood learning spaces by revealing the complex, material-discursive nature of classroom dynamics, where affect flows through and between bodies, objects, and spaces, creating unique moments of learning and becoming.

This diffractive approach makes visible things that more conventional accounts do not, allowing for a nuanced exploration of the field notes whilst also recognising the dynamic nature of my evolving awareness throughout the process.

In this chapter three vignettes present events to describe what happens when the vital energy of children's play goes unrecognised, misunderstood and is stopped by teachers. In the second chapter, three further vignettes present events that show what is possible when children's play progresses unchallenged and the vital energy that is created within it builds, peaks and dissipates without adult interface.

Play is a Four-Letter Word!

The word play has featured a great deal in the recording and writing up of this research. Although it can be a powerful word, the designation of 'play' is often used in schools in England as a term that designates something simple. While other countries in the world have multiple words to express different aspects, facets and nuances associated with the concept of play, in the English language there is only one, which does not capture all the intricacies and complexities that were observed in the Reception classes in the study. While the term 'play' is still used in this writing to designate children's free activity, as the descriptions unfold in the vignettes, New Material Feminist concepts will be used to expand the meanings of what is often referred to as 'play'. In the following vignettes, concepts from Stern, Barad and Manning, such as 'vital energy,' 'enchantment,' intra-actions, and 'worldings' are put to work in an effort to articulate the complexities inherent in the events that were observed.

Positionality and Ethico-onto-epistemology

In my role as a researcher, these concepts enabled me to gradually change the way I viewed classroom practices and interactions. During my research journey, I went on a subtle yet profound transformation in my ability to interpret the sort of classroom practice that I had been viewing for the previous 30 years.

I began to use the research that I was reading to see alternative ways of approaching children's play that challenged my existing assumptions. This change in view was not without moments of uncertainty, unease, and discomfort, with new insights emerging often when I least expected them, prompted by the most mundane of objects and seemingly

uneventful encounters. During the entire time of researching and writing, there was a continuous interplay between discovering and embracing new concepts, whilst at the same time challenging the existing paradigms on which my pedagogy was founded. Not only did this evolution in my position shape me into a more considered and reflective early childhood practitioner, but the gradual process of assimilation, critical reflection and discovery ultimately enhanced my ability to understand the depth of change that I would be asking practitioners to make in their understanding whilst also adding value to the contribution that I was able to make to the world of early childhood education.

Now follows an overview of the dominant concepts that support the diffraction of the field notes in the following chapters.

Assemblages and Events

Deleuze and Guattari (2013) describe how, when an assemblage is created, the elements that are pulled together affect each other, changing the value of each of the parts as well as the assemblage as a whole. This creates something that had not existed before; something new. I will be making an argument that the behaviours of the boys I describe next suggest that they ceased to exist purely on an individual basis, as they became entangled materially, cognitively and sensorially with each other and the classroom space they were inhabiting. The notion of 'event' is an intricate interplay of forces, sensations, and perceptions. Massumi (2013) describes an event as going beyond a simple happening and evolving into a dynamic entangled amalgamation of relationships between matter, affect, and movement. Deleuze and Guattari's (1980) concept of an event is a non-linear and interconnected moment. They use a rhizome metaphor to illustrate the complex and linear nature of events, highlighting the disruptive capacity of the event to challenge existing structures. In this study, the researcher has used the term 'event' to describe a continuous flow of becoming that resists predetermined states of being.

The following vignette describes the intricate intra-actions that shaped the context in which the events that have been chosen as a focus unfolded. Together, assemblages and events became the threads connecting the theoretical frameworks that were called upon to stress

how the more-than-human matters were part of the events and how they contributed to the fluid and entangled nature of life in a Reception classroom.

Forms of Vitality

Daniel Stern's concept of vital energy will be put to use and developed throughout the vignettes. Stern (2010:23) describes vitality as a 'feel of flowing and aliveness'. Boldt (2020) talks about how teachers need to become aware of and value children's vitality. Vitality is a way of communicating the energy of a classroom event. Stern argues that most affect attunement, where humans observe and reflect the behaviours and emotions of others, happens subconsciously and without language. The body is affected on multiple levels in constantly shifting patterns of flow and becoming. Stern's (2010) concept of vitality was born out of his infant research and highlighted the ways in which non-verbal or more-than-verbal gives a space palpable energy. Initially, he was observing interactions between a mother and her baby. Because there were few, if any, linguistic exchanges in these interactions, he was able to notice and record the other human, physical interactions that were taking place. This gave a clear focus on the affecting of the body that sits outside of conscious language, 'the forms of dynamic flow that carry social behaviours' (Stern, 2010:110).

In the vignettes presented below, flows of vital energy build, peak and then dissipate. Boldt (2020:3) described vitality as being like an ocean wave 'with its troughs and crests, curls and breaks speeding and slowing, in which energy is moving, being transferred through water'. She suggested that water does not travel in waves. She uses the metaphor of 'waves' to indicate the transference of energy through water and suggest that 'vitality' is that energy. 'The waves are all of the elements of the event, the assemblage, which carries and transmits the energy, the vitality.' (Boldt, 2020:3) Boldt also drew on Niccolini's (2016) and Mulcahy's (2012, 2019) work on affect, arguing that vitality carries 'students' capacity to learn and teachers' capacity to teach' (Mulcahy, 2019:94). Niccolini (2016) described affect as doing 'pedagogical work'. Affect 'moves knowledge…, stimulates bodies (e.g., with excitement, anxiety, anger, outrage, activism, feeling progressive, feeling political), produces subjectivities…' [affect] 'bears a potent capacity to teach.' (ibid. p246)

Concepts from New Material Feminism draw attention to the agency and potential of objects in the Reception classroom. Lenz Taguchi ‘s (2007) thoughts about objects making themselves intelligible to each other clearly show that the objects the children choose to interact with are not passive, but dynamic, shaping the experience and potential for engagement.

To articulate the nature of children's modes of existence and interaction within a classroom environment, engagement with a variety of concepts and theories is necessary. This approach enables a multi-dimensional perspective that seeks to go beyond the prevailing educational norms that currently dominate discussions. Similar to the experts featured in my field notes throughout these empirical chapters, Stern's (2010) notion of vitality and its expression in children's emotional interactions and play holds a central place in the analysis.

Bennett and the Agency of Objects

Bennett’s (2004) theory of ‘thing power’ provides a lens through which the intrinsic value of the objects that children interact with becomes evident, affording them an invaluable role in children’s play and engagement. When I observed these children in play, I saw multiple moments manifesting in states of complete absorption and deep emotional connection. Bennett’s (2001) concept of enchantment provides a lens that enables me to see these affective connections as catalysts for transformation.

In the following account, reconstructed from my field notes, I pay particular attention to how vital energy can be generated and ‘fuelled’ by a group of boys who enter the play space as individuals, but evolve to play together as one collective unit, underscoring the embodiment of co-being as articulated by Garvey and Fogel (2007). I call on Pink’s (2009) work on emplaced knowledge to explore how objects such as bricks, ramps, cars and the physical space support children’s understanding and provide context for the interconnectedness of their intra-actions.

Temporal and spatial dimensions emerge as a recurring theme throughout the vignettes, particularly the role that they play in influencing the quality and depth of children's engagement. Clark's (2010) concept of 'spaces of potential' draws attention to how the fusion of time and space influence children's ability to become immersed in more-than-human intra-actions. Using these concepts to diffract my field notes provides insights into how children intra-act and engage with learning spaces, making affective connections with objects.

Enchantment

Bennett describes enchantment as being 'struck and shaken by the extraordinary that lives amid the everyday'(2001:2). In her writing, Bennett (2001:111) further expands this meaning describing it as:

> '…a mixed bodily state of joy and disturbance, a transitory sensuous condition dense and intense enough to stop you in your tracks and toss you onto new terrain and to move you from the actual world to its virtual possibilities.'

In the world of the Reception classroom, where the complexity of interactions can often be overlooked or actively stopped in the name of conformity and compliance, the concept of enchantment gives us a way of engaging with 'nonlinear events and dissipating structures' (Bennett 2001:105).

Worlding

Worlding is a conceptual framework that explores how individuals actively participate in the ongoing creation and shaping of the world they inhabit through their actions, perceptions, and interactions. The concept of worlding has been explored by scholars like Erin Manning who said 'Movement is one with the world, not body/world but body worlding. We move not to populate space, not to extend it or to embody it, but to create it'. (Manning 2009:12) Worlding invites the exploration of how bodies, spaces and matter become entangled in a constantly evolving construction of a world which they all inhabit, all contributing to the

dynamic process of the creation of a shared reality. In this study, through their collaborative actions and intra-action with the objects and space around them, children co-create realities that incorporate shared meaning and the relational nature of play. Worlding is not a passive encounter with the immediate environment, but an embodied and enacted process of creation.

In reference to worlding, Anderson & Harrison (2010:8) state '...the term "world" does not refer to an extant thing but rather the context or background against which particular things show up and take on significance: a mobile but more or less stable ensemble of practices, involvements, relations, capacities, tendencies and affordances.'

Vignettes

The three vignettes presented next have narratives that use a more than human perspective to reveal the entanglements and complexities that exist between human actants and the agency of the non-human elements within the learning environment.

By doing so, they enable us to see the interconnectedness of elements within classroom events and the transformative potential that is embedded within them. Teachers and teaching assistants within the classroom were in the habit of blocking or interrupting the vital flows of energy that coursed through children's self-initiated play. Sometimes these interruptions appeared to create residual energy that needed to find another way of being expended.

This One Is Going to Bite You!

This vignette involves five boys in a Reception classroom in Oakfield Primary, who have just been given the opportunity to choose an area of their classroom environment to play in. This followed their return from lunch and a short registration period with the rest of the class.

The next section is a reconstructed description of events based on my field notes.

Ramps-Blocks-Cars-Boys-Shelves Assemblage

The room felt hot when I arrived. The weather had been heavy rain, so the children had been inside this room for the entire day except for going to the dinner hall for lunch.

Because I had a meeting with the Headteacher, I arrived right at the end of the whole class gathering on the carpet. I was frustrated to have missed that session as I was keen to follow up on some of the behaviours and interactions of the children that I had observed at the last whole group session.

One group was asked to remain with Mrs James (their teacher), another group was asked to go and sit at a table with a supporting adult, and the rest of the children were instructed to 'find a job' from the selection of available activities. Mrs James commented that she had seen several children just 'wandering around' in 'job time' and reminded the children that they needed to choose a task or activity area and stay there until the task or activity was complete.

I was sitting on the floor observing a group of boys pushing cars at speed up a ramp they had constructed by stacking a series of different-sized wooden blocks on top of each other and then propping a flat plank up against it. This had started as a shared activity between two boys, and they had done this (possibly many times) before as the movement to construct flowed between them without the need for dialogue. When Connor stacked the wooden blocks too high, Jackson reduced their number without consultation before propping a plank of wood up against them.

Once the planks were in place, the box of cars was tipped out onto the floor. The box was tall, narrow, and very full, making it awkward to move and hard to lift. Connor did not attempt to move the box or lift it to the floor; he put one hand at the bottom of the box, pushing it towards the back of the shelf while simultaneously grabbing the top lip and pulling it towards him so that the box would tip. In the exact moment, as he pulled the box

towards him, he jumped backwards in anticipation of the waterfall of metal and plastic that was about to cascade towards the floor in a satisfying, seemingly familiar clatter.

At this point, the boys were joined by three others who had clearly recognised the sound of the cars falling onto the wooden floor and had come, almost in response to a call from the cars to come and play.
Presented with a vast selection of cars, the boys moved quickly to gather up what they needed. Initially, because of the speed at which it was done, this looked like a random choice – but it soon became clear that the boys had a deep familiarity with each and every vehicle in the box, and they were selected with preference and purpose. This was made even more apparent by the post-selection negotiation that took place over one purple metal sports car, which each of them wanted, but only Jackson had managed to get. When initial verbal negotiations failed, George just snatched the car out of Jackson's hand. Jackson did not retaliate, but Connor snatched the car away from George and gave it back to Jackson. The boys did not speak but exchanged looks and glances. George went to kick the ramp but then stamped his raised foot to the floor as if in the realisation that kicking down the ramp would end his own fun.

The cars were smashing into the back of the shelving unit opposite and then crashing to the floor. As each child took their turn to fire their car up the ramp, the sense of engagement, excitement and enjoyment became palpable. Not only through the rising volume of their voices and the change in speed of the words they were saying, but also their physical movement became faster, appearing more erratic and disjointed, and yet there was coordination within that disjointedness. One boy, while watching, threw himself on the floor several times, getting back up to do it all over again.

The boys were playing in a small space that had been demarcated by two sets of shelves facing each other and a play mat that looked like a roadway. By the time they had constructed the ramp within this area, the inhabitable space had become even smaller. I was struck as I watched that the children did not attempt to move outside of the space as if trapped by an invisible forcefield. They made me think of birds in a cage who flap their wings as nature intended but who are stuck in a cage that is not of their making and they have no

idea how to escape from – instead, just accepting their fate (with their heads) even though their bodies seemed unable to suppress their natural energies and urges to move.

My initial thought was that they were very used to being conditioned by the adults to stay in the designated space. Later, I also realised that if they stayed in that space, Mrs James could not see them from where she was positioned.

I worked that second point out because as the noise level (and giddy atmosphere) rose, the disembodied voice of the adult cut through the space. Mrs James was working with a group on a focused activity and did not leave the task but just shouted to the boys to 'stop firing the cars up the ramp – you know we do not do that.'

This left me wondering who 'we' were and how 'we' and what 'we' could and could not do, had been established.

Mrs James had to give another vocal reminder and then go on to specifically name 2 of the boys and tell them to stop before the play indeed ground to a halt and the children moved on.

Due to this loud vocal interruption to the space by the adult, everyone stopped, looked and waited. All involvement in play and interaction had been stopped, and any play flow was broken.

I remained sitting on the floor opposite the area that still contained the ramp and the cars – strewn on the floor. No one had picked up the cars or dismantled the ramp, and they just remained as a sad relic of what could have been.

One boy who had been engaging in the car/ramp play walked over to me with four plastic snakes (of different colours). With no communication whatsoever, he laid them out with force on the top of my crossed leg, pushing them into my skin. He then said, 'This one is going to bite you, this one is going to kick you, this one is going to spit on you, and this one is going to say swears,' and then he walked away.

The Surge of Vitality

Using Stern's (2010) concept of forms of vitality and his notion of wave with this account, I draw attention to instances of energy building within the boys' play which increases in intensity as time passes. There was constant inter-relationality in this ever-changing assemblage, the energy shifting between children and objects. Due to the size of the space the children were playing in and the available resources, the boys had to take turns pushing their car up and off the ramp. The sorting of bodies into an agreed order was accomplished without words. This silent choreography looked like it had been rehearsed many times before. As the first few cars flew up the ramp, the boys maintained their order, standing back when it was not their turn and then swapping to the front of the line when it was. However, as the play began to build momentum and the excitement grew, the ability to maintain the order of the queue seemed to dissipate. As the boy whose car was at the bottom of the ramp began pushing it to the top, the other boys began to crowd around and lean in. As the boy with the car extended his arm (with some force) to push, the other boys punched the air in a collective, coordinated mimicking movement, and this was also accompanied by a hissing noise that they made by pushing air through their clenched teeth at the moment the car left the ramp. On reflection, they might have been saying the word 'yes', each time a car took flight, but in my field notes, I only recorded the noise as a hiss. The cars were smashing into the back of the shelving unit opposite and then crashing to the floor. As each child took their turn to fire their car up the ramp, the sense of engagement, excitement and enjoyment became palpable. Not only through the rising volume of their voices and the change in speed of the words they were saying, but also their physical movement became faster, appearing more erratic and disjointed, yet there was coordination within that disjointedness. One boy, while watching, threw himself on the floor several times, getting back up to do it all over again.

Whilst the play space was small, the ramp structure and the boys' physical bodies made the available free floor space almost non-existent. Therefore, I was surprised to see the action of the boy throwing himself to the floor. He did this in synchronisation with the movement of the car leaving the ramp and hitting the floor. The floor space he was landing on was

scattered with bricks and discarded cars, and I remember thinking that it must have been uncomfortable, and yet he repeated this action again and again until it was his turn to launch his car. It felt like he was so transfixed by the energy of the play and the joy of the collective experience that he did not physically feel the discomfort. It appears that the energy and vitality built from one simple action of pushing a metal car up a wooden ramp reveals that shared and enhanced actions by many players, can build in energy and engagement, resulting in a messy multiplicity of micro-practices of matter and space, carried on a wave of vitality.

Reading my field notes though Stern's (2010) concepts of vitality and wave enabled me to shed light on aspects of the dynamics of children's play that would have gone unnoticed without these concepts. By drawing on New Material Feminist concepts, the way I observed the boys' behaviours shifted from the way I had viewed events using more traditional developmental concepts to illuminate the boys' actions not as disruptive behaviours so much but as components of play that demonstrate the importance of connections and intra-action.

Next follows further exploration of the role of matter in the intra-action between the boys and their learning space.

An Assemblage of 'Things'

The boys were entangled materially, cognitively, and sensorially with each other and the classroom space. There were objects within the space that the boys had specifically chosen to interact with. Bennet (2010:20) would describe this as 'thing power'. The children's intra-actions with the objects around them show us the possibilities of new ways of seeing and thinking about their learning spaces through their conscious and subconscious co-construction of objects, bodies, and space, and that they are continually reimagining and reconstructing the space around them. The blocks and planks the boys chose to build their ramps with possessed 'thing power'. They were not merely inanimate objects waiting for discovery but play invitations entangling the children in the infinite possibilities of their materiality. There were also other materialities at play, larger, static, more permanent

classroom elements like tables, the shelving units that further influenced the play and even the walls that made up the very fabric of the building, coming into being in different ways and contributing to what could be achieved. The transported and transposed blocks and planks, the boys and cars came together in a human/nonhuman assemblage, all contained within the more solid materialities of the static shelving units, which enacted physical barriers which contained and restricted the play and movement. Also, ultimately, the walls of the classroom defined the entirety of the space and defined who had complete freedom of movement within it (the teacher) and whose movement was restricted (the child).

When we pay attention to the children creating the ramp, we can see that the wave of vitality was growing in force and urgency, but it did not seem to reach the point where it would peak and break. The adult's (repeated) intervention inhibited the growth this wave of energy, but not the force (vitality) that was contained in it. That vitality remained alive within the physicality of the invigorated children, and they seemed to experience the subconscious need to expel it. When the boy came and placed the toys on my body and linked the snakes' actions to aggression, this was the dissipation of the vitality, leaving him free to go and begin the process again.

The field notes I made on my school visits provided me with seemingly unending opportunities to look and look again at what I saw. Each time I looked, I saw something different that further expanded the intricate dance playing out between the bodies and objects that are often regarded as the mundane materiality of the Reception classroom. The classroom is full of resources that have inhabited this space long before the arrival of the teacher or the children. My experience caused me to speculate that many of the resources are chosen through a habit of traditional use in the culture of Reception teaching, available because there is very little other resource provision, or just seen (and yet unseen) as part of the furniture, unquestioned, accepted, and unnoticed. Yet, these resources do significant work in enacting performative power. It is through looking closely at the relationships between objects, bodies, and space, what Barad (2007:146) referred to as 'practices, doings and actions', and attempting to interpret their entangled material agencies, that it is possible to begin to rethink the classroom spaces and the opportunities that are provided for children to be and do.

Stern's (2010) concepts of forms of vitality and wave give a new dimension of analysis to the boys' behaviour during their play. They allow for recognition that the children's actions are more than individual, they are becoming entwined with each other materially, cognitively, and sensorially. It is possible to see what was occurring as the boys and the objects around them coalesced into new ways and modes of being. If we were unaware of the potential presence of vitality in and amongst the children during their play, then we would not have been able to appreciate the shared intensity of the experiences that took place. The complexity of the entangled material agency that was in existence may have gone unnoticed, restricting our understanding and comprehension of what is truly taking place in those observed interactions.

In the next section I will explore the impact of time limits and restricted spaces on the potential for engagement.

Time and Space

I started the extract above from my field notes by talking about the room as a holding space, a physical container of children. The children had been inside these four walls for several hours. However, although the four walls remained static, the space itself was dynamic and active, continually reconstructing itself as a result of the choreographies that were being enacted through object and body materialisations, turning the space into a 'mosaic' of 'vital matter' (Bennett, 2010:22).

There were times when the children were brought together *en masse* or in small groups and 'held' in one designated space. This was at the request of the Mrs James and linked to a concept of the most effective way to 'teach' or control behaviour. Once the initial input by the teacher was complete, two groups of children were directed to other holding spaces, supervised by an adult, and the others were allowed to play in and explore the classroom space. The adult, however, added significant caveats to her invitation to the children to be 'free'.

Here the children were not invited to ‘go and play’ but instructed to ‘find a job’. This use of language could indicate the importance and value that the adult places on the concept of playing. Also, a given ‘job’ or task will likely result in a quantifiable outcome that will give the adult evidence to show that the children are ‘learning’ and that the adult is successfully doing their job, embodying the ‘best practice’ model. Mrs James’ comment about the number of children who were ‘just wandering’ at ‘job time’ is significant. Clark (2003) talks about how play sits uneasily with the clock and that good play takes as long as it takes. Not only was there not a value placed on play here, but the time that children had to engage with and absorb themselves in it was dictated by the external timetable of Mrs James – which had been structured to ensure that maximum time and efficiency was given to the teaching of knowledge and the opportunity for children to demonstrate their successful acquisition of that knowledge. The activities available at ‘job time’ were all linked to a predetermined outcome, many with written prompts like “Can you build five sandcastles?”, “Can you fit the right Numicon into these spaces?”, “Follow the pattern with the beads to make a necklace”; and “How many cups do you think it will take to fill the jug?”. During my observations, what stood out about these prompts was that the adults in the room only referenced them to keep the children on task, and the children ignored them. I will look at a specific intra-action between a child and the dinosaurs later in this chapter.

Children need the opportunity to build up layers of temporal references, and it takes time for them to completely submerge themselves in ‘spaces of potential’ (Clark,2023, p.62). Time to play, which is at the very heart of what we know about child development, does not seem to have the same value in many of the institutions, policies and professional practice that are in place to support the development of children. ‘Slow’ is seen as a negative state when it comes to learning. The current thinking, especially post the Covid 19 pandemic, is linked more to ‘getting ahead’ and ‘catching up’, creating a collective culture of pressure-driven practice where control and data-driven outcomes have risen to become the dominant narrative.

By using the work of Clark (2023) and Bennett (2010) to help me to diffract my field notes, I have gained a much richer understanding of the classroom dynamics that were at play. This Reception classroom can now be seen as a dynamic space that is in a constant state of

transformation as children intra-act with the objects around them and each other. The ongoing conflict between structured tasks, timetabled activities and the time and space for open-ended play exploration is further highlighted when it is considered against Clark's ideas of slow learning and the unhurried child. Engaging with the work of Clark, Bennett and others in this way has given me more ways to reflect upon and decipher the tensions that exist between the perceived education priorities of practitioners and the holistic development of children through their play and interactions.

In the following section I will introduce the concept that objects are not merely acted upon by human players but have equal value and the ability to act back.

The Power of Things

The activities that had been created by the teachers for the children to engage with had a question or instruction attached to them. In the block area, where the boys made the ramps, the prompt was "Can you make a tower that uses 4 + 6 blocks?" The numerals 4 and 6 also had a corresponding number of dots below them for the purpose of counting. Even though the purpose here is to see the objects (blocks and planks) as commodities that the adult gives a specific purpose, they have their material force, their sense of agency. Bennet (2010) would describe this as 'thing power'. The children's intra-actions with the objects around them show us the possibilities of new ways of seeing and thinking about their learning spaces through their conscious and subconscious co-construction of objects, bodies, and space that they are continually reimagining and reconstructing the space around them.

The blocks and planks the boys chose to build their ramps with possessed 'thing power'. They were not merely inanimate objects waiting to be discovered but play invitations entangling the children in the infinite possibilities of their materiality. The transported and transposed blocks and planks and the boys came together in a human/nonhuman assemblage, all contained within the more solid materialities of the static shelving units, which enacted physical barriers which contained and restricted the play and movement.

The teacher directed the children to move to designated spaces to carry out predetermined tasks, thereby restricting their choice of space and, once within a space, the freedom to move. Although she had ultimate freedom of movement, she placed herself in a series of static points, using her voice rather than her physicality to control and manage the environment. The teacher could observe the children from the spaces she chose to inhabit, reminiscent of Bentham's panopticon, which served as a metaphor for power and control, operating the mechanisms of observation, discipline, and self-regulation. The small-scale panopticon enacted through the layout of the classroom space and the favoured position of the adult is a reminder of Foucault's (1975:25) point that 'it is always the body that is the issue – the body and its forces, their utility and their docility, their distribution and their submission.'

I commented in my field notes that even though there was space beyond the shelving units that housed the blocks, ramps and cars, the children chose to stay within the space, even when it became difficult to negotiate and restricted their movements. It was the sound, the banging of the cars against the shelves and the rising noise level of their play that prompted the adult to close it down. The adult, Mrs James, could not see the physicality of their play from her position. Although none of the boys verbally articulated that knowledge, they held it either as a shared subconscious sense or as a reference to prior knowledge from experience. The boys were experiencing their bodies, bricks and blocks becoming entangled intra-active forces in the spatial assemblage of that area of the classroom. From this intra-action vital intensities and emotions emerged. Objects and places act on children during play as they are 'trying to make themselves intelligible to each other' (Lenz Taguchi, 2010:152). Lenz Taguchi (2014) also writes that a new materialist perspective on early childhood marks a paradigm shift from previous thinking about children's play. Play engages with identities within broader cultural and societal discourses, and children explore a range of emotional responses in their play. New materialism acknowledges the agency of materials in these play interactions. Lenz Taguchi (2010), when discussing children playing with sand, notes that the sand plays with the children as much as the children play with the sand. Through this lens, the child is decentred, which has implications for what we understand as play. Just as the child plays with the object, Horton and Kraftl (2006:73) describe the objects as 'acting back'.

When we apply this thinking to the scenario of the boys with the blocks, ramps and cars, the space and the objects shaped the children's play, becoming crucial to articulating their vital forces and enabling shared moments of intensity. The place, object, and child 'make themselves intelligible to each other' (Lenz Taguchi, 2010:152).
Once early childhood educators are able to recognise these moments of intensity occurring in their learning spaces, a whole new level of information becomes available to them. I will explore this further in the next section.

The Choreography of Emplaced Knowledge

During this session with the Reception children, I noted that:

This had started as a shared activity between two boys, and it seemed apparent that they had done this (possibly many times) before as the movement to construct flowed between them without the need for dialogue. When Connor stacked the wooden blocks too high, Jackson reduced their number without consultation before propping a plank of wood up against them.

Once the planks were in place, the box of cars was tipped out onto the floor. The box was tall, narrow, and very full, making it awkward to move and hard to lift. Connor did not attempt to move the box or lift it to the floor; he put one hand at the bottom of the box, pushing it towards the back of the shelf while simultaneously grabbing the top lip and pulling it towards him so that the box would tip. In the exact moment, as he pulled the box towards him, he jumped backwards in anticipation of the waterfall of metal and plastic that was about to cascade towards the floor in a satisfying, seemingly familiar clatter.

At this point, the boys were joined by three others who had clearly recognised the sound of the cars falling onto the wooden floor and had come, almost in response to a call from the cars to come and play.

I was struck by this silent choreography between these two boys. Sometimes they moved separately, sometimes as one, sharing their knowledge through a series of movements and looks; they had shared knowledge of this practice, knowing the sequence of events that needed to take place to achieve the unspoken end result. The outcome was predetermined and familiar, and it seemed that even though the players/constructors might be different each time, they possessed a shared knowledge of a common goal. This embodied knowledge was not just about process but also about place. The boys had knowledge and engagement with their shared classroom space and negated the need for speech or explanation. Pink (2009:35) refers to this as emplaced knowledge, 'an embodied and multisensorial way of knowing that is inextricable from our sensorial and material engagement with the environment'. The construction of the ramps, the tipping of the box of cars, the knowledge of the meaning attached to the sound of cars cascading to the floor and the boys' choice to remain cramped in a space to avoid detection by the adults, all demonstrated a deep sense of knowing. The classroom was in the children as much as the children were in the classroom.

A new materialist approach to early childhood development emphasises the materiality of a child's body within a given space, displacing it from the view of being seen as a complete and separate entity but instead as a zone of contact. Lenz Taguchi (2010:48), quoting Barad (2007), states that skin 'is not the border of our bodies, but a territory or region of interference, a 'diffraction' of communicative 'waves' between matters'. This helps to illustrate Stern's (2018) concept of vitality, as he highlighted how the nonverbal and the more-than-verbal play a crucial role in animating a space. Stern (2018:110) talks about 'the forms of dynamic flow that carry social behaviours', vitality being conducted through the ways that interactants are attuned and responding to everything that is happening around them on a subconscious level. Therefore, Stern (2018) argues that we need to pay significantly more attention to expressions of vitality as they carry invaluable information about the embodied experience, rather than listening for language cues which can distract from the truth and mask reality.

There is so much vitality in classroom spaces that is unseen and, therefore, unknown and unacknowledged. Stern (2004:222) relates vitality closely to creativity, power and

intersubjectivity, writing 'with an emphasis on implicit experience rather than explicit content, therapeutic aims shift more to the deepening and enriching of experience'. We could easily substitute therapeutic aims for educational ones. If our children experience an ongoing lack of acknowledgement and recognition of their expressions of vitality, they will begin to feel unseen and undervalued, which in turn will directly affect their emotional response to being a learner within this learning community.

Using the work of Stern (2010) and Lenz Taguchi (2010), I was able to reveal to myself the shared embodied knowledge and engagement that was occurring between these two boys and their environment. Viewing their intra-actions through a lens of vitality provides more opportunities for practitioners to value the experiences that children have within the environment and the many ways, conscious and subconscious, that they choose to express them.

Purple Car

Thing power suggests that agency is more of a collaborative process between object and human. I can apply this thinking to my field note observations concerning the popularity of the purple car:

Presented with a vast selection of cars, the boys moved quickly to gather up what they needed. Initially, because of the speed at which it was done, this looked like a random choice – but it soon became clear that the boys had a deep familiarity with each and every vehicle in the box, and they were selected with preference and purpose. This was made even more apparent by the post-selection negotiation that took place over one purple metal sports car, which each of them wanted, but only Jackson had managed to get. When initial verbal negotiations failed, George just snatched the car out of Jackson's hand. Jackson did not retaliate, but Connor snatched the car away from George and gave it back to Jackson. The boys did not speak but exchanged looks and glances. George went to kick the ramp but then stamped his raised foot to the floor as if in the realisation that kicking down the ramp would end his own fun.

The selection and negotiation over a purple metal car shows a collaborative process where material objects exert agency, influencing the boys' co-being and co-regulated play.

The Agency of Matter

As the boys began to grapple over their choice of cars, they were already riding the wave of vitality in which each of them was collaborating. They were in what Garvey and Fogel (2007) describe as a state of co-being, where dialogue and movements are mutually co-regulated. The definition of dialogue here is something multifaceted; it goes beyond conversation and exchange. There is also a strong sense of 'other', a shared affective experience, and a potent form of vitality. When it becomes clear to the boys that they all want the purple car, spoken language strongly influences their choice of mediation and negotiation. Each of the boys felt very strongly about wishing to possess this object, and this desire was apparent in their forceful use of language, body positioning and facial expressions. As the negotiations continued, their voices grew louder, leading to a heightened awareness of each of their emotional states. This felt like a separate wave of vitality rising amid the one they were already in.

The strength of affect they were feeling was evident in their voices, not only in the words they used but the intensity of their speech. Interestingly, when their negotiations reached a certain volume, they all stopped. This was not because they had come to a successful resolution. However, they had seemingly become aware that any greater volume would alert the adult to what was happening, and their play would be discovered and stopped. Here, I could see the force of the vitality maintain strength but shift to a series of non-verbal, rough, physical movements that involved snatching and grabbing. The boys were showing an in-depth understanding of co-regulated communication; they understood what was happening and seemingly had agreed 'rules of play' to which they adhered. This was an interaction the like of which had occurred many times before. Even though one of the boys had tried to claim this car as theirs and argued over it, I was surprised by the actions of Jackson, who took the car from George but, rather than keep it, returned it to Connor. I am unsure if this was a subservient action or a strong sense of moral justice. If we think about

possessing the purple car as a dynamic experience within a greater, larger form of vitality, we can see how the vital wave builds, breaks, and resolves for each of the boys.

Stern (2010) makes a clear difference between forms of vitality and the emotions that are felt by the individuals who are co-existing within it. The vital form is the overall force acting during the event in motion. Although the emotions of the connected individuals feed it, it is not governed by any one individual. Within a context like the one I am describing, the form of vitality is the interaction with the cars and ramps. However, within it, we can see the temporality and intensity of individual human dynamic experiences. For Connor, resolution came with the eventual, final possession of the car. For Jackson, it was in the action of snatching back the car and then passing it to Connor. For George, the affect he felt, rather than being resolved, was heightened by his frustration at losing the car. He could not find a purely emotional resolution to his feelings, so his resolution manifested itself in his physicality, raising his foot to kick the ramp and end the play for everyone, only to seemingly consider the impact that his actions would have on his enjoyment (in the split second while his foot was in the air) and stamp on the floor instead.

As the play developed, the players appeared to become increasingly attuned to each other in a state of excitement and shared pleasure, creating an affective tone of the play. The noise of each repeated bang of the cars as they hit the back of the shelving unit appeared to raise the excitement, like the clicking sound of the knob on an oven, each click raising the temperature further. For the boys, they were building their shared vitality, their feeling of flow and aliveness. It became clear from Mrs James's comments that would follow that this play, or a version of it, had happened many times before. So, part of that vital feeling for the players was the anticipation of discovery by the adult and the interaction that would ensue. The car's materialisation, in a human-nonhuman apparatus of mattering, highlights the human relations between teacher and child in the Reception classroom and the instinctual, emotional, and moral presumptions they embody.

It appears from the excerpt from my field notes above that the teachers and classroom assistants did not see vitality, instead they saw disruptive and threatening behaviours. It was as if they saw these some of these behaviours as a threat to status quo of what they

appear perceive to be an effective learning environment. Although the boys did not choose to physically spill out of their play space, this decision seemed to be driven by a desire to remain undiscovered. However, the noise of their play shattered an imposed barrier, causing a well-rehearsed series of actions to be put into place that ultimately stopped the play altogether. Boundaries and containment practices seem to dominate teaching pedagogy, causing children to comply with, reject, or become subversive players around them. However, none of these options has an ultimately positive outcome for the children. They do not consider or appreciate the power of 'things' or the potential lost when a wave of vitality is interrupted. A posthuman lens in the classroom would encourage teachers to acknowledge and pay more attention to the non-human aspects of children's play and experiences and how these are inseparably entangled with how children exist within the classroom space. Agency makes itself apparent through the intra-actions of people, things, and places.

Snakes!

I return to Stern's (2010) concept of vitality and its relation to affect in the classroom concerning the final event that appears in the field notes that I made on this visit:

> *One boy who had been engaging in the car/ramp play walked over to me with four plastic snakes (of different colours). With no communication whatsoever, he laid them out with some force on the top of my crossed leg, pushing them into my skin. He then said, 'This one is going to bite you, this one is going to kick you, this one is going to spit on you, and this one is going to say swears,' and then he walked away.*

Stern (2010:23) describes vitality as 'the feel of flowing and aliveness', which I sensed and observed as I watched these boys at their subversive play. Looking at the physical play and intra-actions of the boys, it has been possible to identify the beginnings and building of a vital 'moment' and watch it grow as children and objects are taken up in, moving with and feeding the flow of energy, their verbal and more-than-verbal contributions playing a pivotal role in animating those moments within that space. Mrs James then stopped the play. If we take Boldt's (2020) representation of vitality as a wave, the adult acted like a harbour wall in

a storm. Rather than allowing the wave to build, break and then dissipate, the wall creates a hard stop, causing the wave's energy to disperse explosively. The force is such that it cannot just be halted, the energy/vitality must be spent.

It seemed that the boy with the snakes did not, or perhaps could not, verbally articulate the flow of vitality he was experiencing. His engagement with the snakes appeared to generate an intensity of affect that exceeded conventional social boundaries, compelling him to physically place the snakes on my body. This action suggests a form of embodied communication, where the vitality of his play sought expression beyond words or typical social protocols. When his play was interrupted, the shift in his demeanour indicated a change in the affective flow, manifesting as what we might perceive as frustration or anger. However, it's important to recognise that these are our interpretations of his outward expressions, and may not fully capture the complex, internal dynamics of his experience. His choice of snakes as play objects is intriguing, inviting us to consider the potential meanings and affects they held for him. Rather than assuming these meanings, we can observe how the snakes seemed to act as conduits for a particularly potent form of vital energy in his play. This encounter highlights the way vitality in play can surge beyond verbal expression and social norms, seeking alternative pathways for manifestation. It underscores the importance of recognising and valuing these intense, embodied experiences as part of children's complex engagements with their environment, even when they challenge our adult expectations or comfort zones. The physical act of pushing the snakes into my leg would have potentially given him some emotional release, but this was not enough to dissipate his wave of vital energy. He also used his voice, not only in terms of volume of sound but also in the words that he chose. Then he said:

> *'This one is going to bite you, this one is going to kick you, this one is going to spit on you, and this one is going to say swears.'*

All words that, for him, might represent pain, hurt and frustration. A perfect articulation of his state of disenfranchisement.

Reading the behaviours through Stern's concept of vitality (2010) provides a perspective that allows a different understanding of the 'hidden' dynamics that are present during events. Seeing vitality as a force that serves to animate interactions allows us to observe the silent dialogue that takes place between the children and the objects they choose to play with. The profound impact and consequences of the adult's interruption of the vital follow are emphasised by the behaviour of the boy with the snakes. We can gain valuable insights into the way that children express the vitality of their experiences that may previously have been seen as purely aggressive and inappropriate behaviour.

There now follows a summary and discussion of the main points that have been highlighted in the exploration of this vignette.

Discussion

Bennett (2010) describes enchantment as being in a state of wonder. One of the elements that she says identify enchantment is that there is a temporary suspension of the concept of chronological time; this can be brief or of some length. Bodily movement is also suspended. At this time, the enchanted individual enters an 'immobilising encounter' where they are transfixed or spellbound. When I thought about the boys and their interactions with the cars, I would have used words such as enchanted and spellbound to describe their level of ultimate engagement. I would also have said that they appeared to lose all concept of the passing of time. Indeed, they appeared to become oblivious to everyone and everything outside of the immediacy of their play, which is why their initially cautious noise level became loud enough to attract the teacher's attention. To be in a state of enchantment, you are equally caught up and carried away, and I would say that was evident in the intra-action of these boys. What did not happen in line with Bennett's (2010) definition was a moment of complete stillness. The boys danced a seamless and well-coordinated choreographed dance of play, where they were still times, often when waiting for a turn. These instances were born out of available space and practicality, rather than a spellbound moment of realisation. Bennett (2010) expands on this point, saying, 'limbs are brought to rest even as senses continue to operate'. The odd combination of somatic effects marks enchantment.

Stern's (2010) concept of vitality provides a lens through which to view how the boys become part of a vital event, engaging in affective patterning, building and transferring energy between them. Their levels of engagement are high, and they begin to lose their conceptual knowledge of anything outside of their play. This feels like they are 'becoming' enchanted Bennett (2010). In this scenario, I was able to see how this wave of vitality built and grew, but not how it concluded. This was because of the teacher's intervention. This incident and others I observed suggest that children are caught in moments or periods of vitality that on occasion can lead to states of enchantment before being broken or naturally dissipating. I observed micro-moments of enchantment that were brief but present and more prolonged periods that are broken or come to a natural conclusion.

Summary

These observations in this vignette offer insights into how children immerse themselves in an event and the intricate dynamics that exist within the learning milieu they occupy. The relationality between the elements within the assemblage contributed to the building of vital energy in their play. The potentiality here arose from a complex interplay of elements that came together to form a dynamic and evolving situation. The primary elements included ramps, blocks, cars, boys, shelves, and the teacher. The emergence of the event was marked by the children's engagement with these elements, particularly in the construction of a ramp using wooden blocks and the subsequent play with cars.

The boys' engagement with the wooden blocks, ramps and cars served as a vivid illustration of a material apparatus (Barad 2007). The apparatus encompassed the entire configuration of these physical objects and the discursive practices that were associated with them, including negotiation, selection, and non-verbal communication within their play. In this intricate interplay, these objects transcended the role of playthings or learning resources, they became integral components of a dynamic system through which shared meanings and interactions were woven. The collaborative construction of the ramps became a manifestation of relationality where the boys engaged in a collective endeavour, weaving their actions and relationships into the materiality of the play. The preference and negotiation over specific cars can be seen as an entanglement of personal choices within a

shared context, reflecting the interconnectedness of individual agency and collective dynamics.

The objects seemed to have been purposefully chosen, this could indicate an intention to cultivate an environment where the liveliness of play could unfold. While we cannot definitively ascertain the level of consciousness behind the selection, it appeared that the objects almost beckon to the boys, enticing them to collaborate and create together. The relationality between the boys, the objects, and the space they occupy formed a complex web of entanglements, shaping the conditions for possibilities within their play. Within this entanglement, several possibilities emerged, each a thread in the fabric of their play. The agency and autonomy demonstrated by the boys through their deliberate choices suggests the creation of a shared milieu where individual preferences and autonomy can be explored collectively. Importantly, it reflects their inclination to diverge from the expectations of the teacher, finding more enjoyment in their own worlding (Manning 2014). This enabled negotiation and collaboration, exemplified by the process of choosing specific cars. Here, the microcosm of play became a space for developing negotiation skills and collaborative decision-making, echoing broader social contexts. Beyond the immediate materiality of the objects within the space, symbolic communication became a tool for expression, meaning making and worlding. The confines of the play space introduced the necessity for children to adapt their activity, but also opportunities for new activity to arise from the restriction. This required an understanding of the constraints, possibilities, and potentialities within the given environment. The interruption by the adult re-enforced the complex world of power dynamics and authority. This external influence disrupted the play and prompted the recognition of societal structures that ultimately impact interactions like these.

The non-verbal communication among the boys, especially during the negotiation over the purple car, showcased the relationality between being and the material environment. The boys expressed themselves through bodily movements and facial expressions, embodying a form of co-being that went beyond language. The shared world they fashioned is a microcosm of collaborative agency and negotiated autonomy. In this world, the wooden blocks and ramps symbolised the foundations of their collective endeavours. They were a tangible representation of their shared experiences and joint efforts. The carefully chosen

cars, each with its own significance, conveyed individual likes that were intrinsically woven into this shared narrative. The confined play space formed the boundaries of their world, where spatial constraints both challenged and inspired their creativity. Each of the boys, whilst co-creating their shared world and seamlessly moving between individual play and collaboration, maintained a level of autonomy within their interactions.

Children engaged in creative and imaginative scenarios in hidden spaces out of the teacher's direct gaze. For example, large furniture seemed to establish a physical framework that delineated the area that was available for free expression. In the vignette above, within this milieu, the boys engaged in a dynamic negotiation of the space. The boys had to continue to navigate a delicate balance, pushing the boundaries within the confines set by the furniture, all the while discreetly crafting their world against the backdrop of the teacher's expectations. Their constant vigilance ensured they could continue their activities without drawing the attention of the Mrs. James, embodying an ongoing, subversive form of group expression. The spatial constraints introduced a challenge that, in turn, prompted creative adaptations in the ongoing imaginative and physical activity of the emergent and organic 'worlding' (Anderson & Harrison, 2010) of the boys. The assemblage of the space, with its carefully negotiated boundaries, became a crucial component in shaping the rhythm, flow, and possibilities within their shared play event. It also influenced the dynamics of the boys' relationships, so created both physical and symbolic boundaries. The boys, consciously or unconsciously, negotiated the boundaries of this space, creating a dynamic event. The tension between Mrs James' focus on a designated space and the boys' vital play underscored the conflict between prescribed norms and the vitality inherent in the boys' worlding.

Mrs. James actively disrupted the emergent and organic worlding of the boys. In this context, the significance of relationalities is that they serve as a driving force behind the growing vital energy of the event. When relational dynamics are allowed to unfold without hinderance, they amplify the force of the vitality. It is in the unrestrained interplay of these relationalities that the true strength and energy of the experience becomes visible.
The adult's interruption fractured the construction of relationships that had been developing between the boys, objects and space. Relational dynamics that were carefully

negotiated through shared engagement between children, objects and space were abruptly halted. This not only physically interrupts the play, but also the unspoken understanding and agreements that had been formed between the actants in the assemblage. The interruption suspended (and shifted) the relational entanglements that had developed to become the foundations of their play.

The abrupt shift in attention, from immersive worlding (Manning, 2013) to the worlding imposed by the teacher and school conventions, introduced a rupture in the organic unfolding of the children's experiences. This imposition disrupted the fluidity of their engagement, redirecting their focus from the vital, embodied interactions with materials and space to a more constrained and conventional level of participation dictated by the external expectations of Mrs James. The actions of Mrs James provided the opportunity to reflect on how the boys' worlding might have been sustained for a significantly longer period if the teacher had not intervened.

Recognising the interplay between individual agency and collective endeavour is important because it acknowledges the complexity and interconnectedness of social dynamics. It shows that the actions of the boys were not isolated but were meshed together as a collective experience that was simultaneously shaping and being shaped.
When the boys engaged in choosing cars from the box and negotiating over the purple car, it exemplified how each boy exercised agency, either consciously or sub-consciously, in expressing their personal preference. Was this conscious agency or something a little less than conscious? This individual agency became intricately woven into the collective endeavour as the negotiation process unfolded. The boys worked together to decide who should take ownership of the car they all wanted, perhaps demonstrating a subconscious inclination to harmonise their individual desires within the collective decision-making of the group. Their non-verbal interactions suggest high levels of vital energy (Stern, 2010) and co-regulated communication, and this sometimes created dynamic events where the boundaries between self and collective blurred.

This vignette unveils the intricate interplay of relationalities between space, objects, and children. The disruption of conventional boundaries exposed the delicate balance that

sustained the vitality and worlding of the boys' play within the broader socio-cultural expectation expressed by Mrs James.

The next vignette focuses on the possibility that moments of enchantment occur in events in which vitality builds and seems to intensify, perhaps affecting individuals at different times and durations. The vital energy is once again blocked by the teacher.

The following excerpt from my field notes was taken at St Johns. It occurs in the morning, following a whole class teaching session which took place on the shared carpet space.

Dinosaurs

Introduction

This section draws attention to the complex dynamics of play, engaging with Stern to provide insight on how educators could be enabled to acknowledge and value the affective dimension of children's play experiences, prioritising and giving value to their emotional engagement. I further develop this thinking by engaging with MacLure's (2013) writing on embodied pedagogies, exploring the importance and impact of embodied experiences in learning. The vignette will illustrate moments when a child's play seems to become all-consuming, suggesting an embodied immersion in events that seems to involve reacting with the materiality and space. Massumi's (2002) concept of thinking-feeling enabled me to introduce an alternative perspective on how we see the relationship between cognition and affect, allowing me to highlight instances from my fieldwork where thinking and feeling become inseparably entwined in lived experience. Ingold's (2007) concept of thinking movement helped me to focus on bodily movements and how they seem to intertwine with creative imaginative play, challenging the more conventional idea that thought and action exist as two separate entities. The vignette will pay attention to the intertwined relationship of human and non-human actants that often goes unseen by teachers. Lenz Taguchi's (2010) interactive pedagogy provides me with ways to think about the agential role of material in children's play and learning. Accordingly, objects in the classroom can be seen as dynamic

agents of learning that can feed vital energy and promote moments of enchantment. Referring once again to the work of Bennett (2010) and the concept of vibrant matter, I highlight the vitality and agency of the objects that children interact with, their inherent liveliness, interconnectedness, and their capacity to affect and be affected, promoting opportunities for moments of enchantment.

Size Order

In St John's Primary School, even though I was working with one of the Reception teachers (Mrs Simms), two classes (60 children) used the same play space. Mrs Simms and the other Reception teacher shared the planning of the activities. Many of the activities were linked directly to Early Learning Goal outcomes, and the 'objective' attached to each activity was written out and displayed in, on, or next to the resources. During my observations, I never saw a child independently reference or respond to these learning cues. The adults regularly referenced them, as if trying to direct the children's play and interaction to the learning goals.

T-Rex

The description below is reconstructed from my field notes, and was based on an event in which I observed a boy (Alfie) intra-act with the content of a 'Tuff Tray', a large plastic hexagonal tray on legs:

Alfie left the carpet session and made his way to a Tuff Tray in the middle of the room. The tray is on legs, which makes it sit at his chest height. He can reach into the tray but not to its middle, meaning any objects in the middle are out of his reach, and he has to physically walk around the tray to move the items in it. Today in the tray, there are four dinosaurs. Also written onto the tray in chalk pen are the words 'Can you put the dinosaurs in size order?'. Before the children left the carpet, the teacher went through the areas of provision and alerted the children to the objective that was attached to each one. This took some time. When the teacher began to do this, it signalled to the children that they were about to be released from the carpet to go and play, at this point they became noticeably more restless.

Due to the number of areas that had been created by the adults for the children to interact with, there is little chance that the children would remember them all.

Alfie is walking around the perimeter of the tray, looking carefully at the dinosaurs; he only reaches out to touch one once he has made an entire circumference of the tray. When he returns to his starting point, he pauses to look around to see if anyone else is nearby. Everyone else is engaged with other play resources, and he remains alone. Alfie smiles and then reaches out to pick up the T-Rex, quietly roaring as he does so. He positions the T-Rex on one side of the tray. He then reaches for the triceratops and positions it opposite the T-Rex, again roaring under his breath. Once they are in position, Alfie looks up to locate the adults in the room. His gaze is precise, he identifies where each adult is. He then takes T-Rex in one hand and triceratops in the other and begins to bang them against each other and roar. He changes the tone of the roar to discriminate between the two dinosaurs.

Initially, as the dinosaurs begin to battle, his gaze moves backwards and forwards between the objects in his hands and the adults in the room, but as the play moves forward, he becomes more and more absorbed in the battle within his hands. He stops looking at the adults and is now intensely focused on the dinosaurs. The play is overtaking him. He no longer seems aware of anyone or anything around him, just his battle to the death! As he becomes more absorbed, he loses the ability to self-edit his emotions and engagement, and the volume of his play increases. The roar of the dinosaurs is now clearly audible, and as each one overcomes the other, he drops the losing dinosaur from a height so that it crashes into the tray before retaliating.

I can see that the teachers have noticed the noise level increase. They are both looking over to where the dinosaur wrestling is happening. Alfie's teacher (Mrs Simms) shouts over 'Alfie!'. Alfie is so absorbed in his play that he does not hear her, although other children do, and stop what they are doing and look at Alfie. She calls again, this time in a loud, singsong, comical voice, 'Allllll-fieeeee, yoooo-hooo!'. Some of the children laugh. The laughter causes Alfie to look up and catch Mrs Simms' gaze. She says, 'Don't forget Alfie, we need to put the dinosaurs in size order. Can you do that?' Alfie does not verbally respond, maintains his gaze at her and then looks back to the dinosaurs.

He keeps his hands still but resting on the dinosaurs. He looks around him to see if anyone else is near and sees that the teachers have re-engaged with the children they were working with. He then picks up the dinosaurs and carries on their battle. His gestures are becoming more prominent, and he is circling his arms above his head before repeatedly clashing the dinosaurs together with force, roaring and then moaning.

Mrs Simms looks up from her group work and then gets up and moves across to the tray where Alfie is. It is her arrival that breaks the focus of his play this time. This time she says, 'Now then, how about you help me to put these dinosaurs in size order? Let's start with the biggest one. Which one is the biggest one? Can you find it for me?'' The questions come in rapid succession. Alfie holds T-Rex close to his chest with both hands and looks at the adult. She then says, 'Okay, how about I start? I think T-Rex is the tallest, do you? Can you put T-Rex here?' She points to a spot on the tray. Alfie visibly pulls the dinosaur closer into his chest. He has yet to speak. Mrs Simms, seeing that he is not responding, then says 'Okay (pause), how about you come and work at my table?' Any humour or musicality has now left her voice. There is a noticeable change in tone. She maintains Alfie's gaze and holds out her hand to indicate that she wants him to take hold of it. Alfie pauses and then lifts his hand to take hers while tucking the T-Rex under his arm, crossing his hand across his body to keep it securely in place. Mrs Simms shifts her body as if to move forward and then stops. She is looking at the dinosaur under Alfie's arm. She says, 'No (pause), you can leave the dinosaur there.' Alfie avoids her gaze and looks to the floor. I can see his arm flex as it tightens around the dinosaur. Mrs Simms does not speak again. She pulls the dinosaur from under Alfie's arm and places it back in the tray. Alfie does not take his eyes off the dinosaur the entire time. He tracks it with his gaze as it is placed back where it came from. She then says, in a significantly brighter tone, 'Come on then, you can read your reading book to me.' Alfie is still holding her hand, or she is holding on to his, it is hard to tell. He follows her to the table she is sitting at, but he constantly looks back at the tray with the dinosaurs until he is seated (by Mrs Simms) in a chair with his back facing the tray. I am struck by the fact that Alfie has not spoken during this entire incident.

The Agency of Place and Object

Alfie's move from the carpet straight to the dinosaurs may have been a predetermined thought. He did not wander through the space as some children did, nor did he appear to wait to see what his friends chose. He seemed to have a strong desire to re-engage with the play. It seemed as if he savoured the opportunity to play with the dinosaurs to the extent that he did not want anyone else to play with him. His initial movements were gentle and quiet, yet he remained hypervigilant about the whereabouts of his other classmates and adults. His movement from the carpet to the dinosaurs showed his intent and the beginnings of his individual experience of an episode of vitality. Stern (2010) discusses the dynamic forms of vitality, which he outlines as movement, time, force, space and intention. All these forms were evident during the period that I observed Alfie and his interaction with the dinosaurs, but the first was the intention.

Alfie's movement to the tray appeared conscious, purposeful, almost hurried. However, on arrival, his attention was drawn to the form of the dinosaurs, and his movement was slow, perhaps almost subconscious, as he circled the tray. Stern (2010:45) contends that movement has a primacy of experience, writing: 'vitality dynamics refer mainly to the shifts in forces felt to be acting during an event in motion'. Stern suggests that before we can appreciate the 'what' and 'why' of any vital experience, we first engage with the 'how'. The dinosaurs and Alfie seemed to be drawn together. In moments like this, human and non-human matter elements are intra-acting, feeding the vitality.

According to Massumi, 'vitality dynamics pertain to the actualisation of a power of expression' (2002:7), encompassing the various dimensions of movement and agency in an individual's experience. Alfie's seemingly intentional movement from the carpet to the dinosaurs can be read as an expression of his desire to re-engage with the dinosaur that seemed to hold a special attraction, he appeared to have a particular investment in it, possibly due to his previous experiences that are carried imperceptibly into the present through the object.

As Alfie circled the tray, his movement became slow, the entanglement of agency between self, the dinosaurs, and the physical space becoming apparent. Massumi (2002:6) argues that ‘vitality dynamics are inextricably tied to bodily dynamics, which are fundamentally situated in a world’. Alfie's engagement with the dinosaur seemed to involve an emotional connection, possibly from the fact that he had previously experienced positive emotions when playing with those objects, and the desire to revisit those feelings and emotions fuelled his play. MacLure (2013:4) emphasises that ‘matter is not a passive recipient of human design but an active contributor to the shaping of events, practices, and social relations’.

Mrs Simms’ intervention disrupted the vital flow of Alfie's play. Her actions involved a power dynamic between her and Alfie, with Mrs Simms assuming authority and control. By interrupting his play and giving a definite instruction, Mrs Simms asserted her dominance, not only directly to Alfie but also indirectly to the other children who witness the interaction. By saying 'Don't forget Alfie, we need to put the dinosaurs in size order. Can you do that?', Mrs Simms used persuasive language and her gentle tone could be seen to mask the intent of the interaction which appeared to be to reduce the noise that he was making and to require him to meet the planned objective linked to the activity. I took Alfie’s non-verbal response and lack of movement as an indication that he did not want to comply with the instruction but did not have the language to respond. He exerted power and defiance by holding on to the dinosaur, clutching it tightly to his body, until it was finally taken by the adult and returned to the tray. His sedentary physical action, non-verbal interaction, and the fact he maintained his gaze on the dinosaurs in the tray until the adult made that physically impossible, showed his resistance to this intervention. He expressed his thoughts and feelings through his actions, embodied and physical, aligning with Massumi's (2011) concept of affective embodiment.

Alfie's absorption in the play seemed to reach a state of enchantment, as Bennett (2010) described, where his temporal and physical sensations are suspended, captivating his focus entirely. As Bennett (2010:23) states, ‘enchantment suspends ordinary rules of time, space, and intention, capturing one's attention, heightening one's senses, and making one lose track of one's surroundings’. Despite the anxiety caused by the awareness of adult

surveillance, Alfie's play seemed to have reached a point of intense engagement and enchantment. His emotions overflowed and resulted in the increased volume of his voice and the physical embodiment of the play through his movements. However, Mrs Simms' repeated interventions disrupted Alfie's state of enchantment and vitality. The interruption caused a momentary pause and slowed down the vital flow. Alfie's attempt to maintain the connection with the dinosaurs by keeping his hands on them demonstrated his desire to continue the play and sustain the vitality he had experienced. Once he re-engaged in his play, the intensity increased further, as indicated perhaps by his exaggerated gestures and louder vocalisations.

The intensity of this vital experience grew slowly. Moments of engagement were punctuated with anxiety. Alfie constantly checked to see if Mrs Simms was watching him, showing an awareness that how he is playing would not meet with the approval of the teachers in the space. These feelings of anxiety slowed the progress of his play but were significant vitality dynamics, shifting the forces he could feel acting within and upon him during this event. When his engagement with the dinosaurs reached a certain point, his level of awareness of the world around him seemingly tipped into enchantment. This suspension may have occurred due to his 'active engagement with objects of sensuous awe' (Bennett 2010:5). These need not be extraordinary objects; enchantment can come from the familiar and mundane. Bennett (2010) suggests that two stages must occur for enchantment to result. One is a pleasurable surprise, and the other is an unfamiliar disruption; combined, they result in a level of all-consuming engagement. His state of hypervigilance seemed to subside into one of enchantment as he became more focused on and consumed by enacting out a fight between two dinosaurs.

Teachers Halting Play

As a result of his 'unchecked' state of enchantment, the vital sense of his play intensified. We can see this as a physical embodiment:

...he loses the ability to self-edit his emotions and engagement, and the volume of his play increases. The roar of the dinosaurs is now clearly audible, and as each one overcomes the

other, he drops the losing dinosaur from a height, so that it crashes into the tray before retaliating.

Even when the noise of this play alerted Mrs Simms, and she called over to him, he was so absorbed that, whilst her call halted the play of some of the other children, he remained enchanted until the laughter of the other children finally broke that state of enchantment. In the short interaction that followed, Alfie did not acknowledge the questions or requests from Mrs Simms. He kept his hands resting on the dinosaurs as if to maintain some of the connection that had just been lost by being interrupted by the adult. Rather than human and object, the intra-action seemingly merged Alfie and the T-Rex toy into one embodied entity. Vitality can be seen as a wave (Boldt, 2020) and Alfie's state of enchantment can be viewed as a wave of vitality that reached a peak, holding this state. However, the interjection by the adult interrupted the flow. It did not cause a hard stop but rather a pause or slowing down. Alfie keeping his hands on the dinosaurs showed an intent to continue, a desire not to lose impetus. It seemed that the desire was so strong and the vitality so recent that it re-established itself very quickly once he had re-engaged in his play. Moreover, this time the engagement was more intense. His physical movements were more exaggerated, and his vocalisations were louder.

> *His gestures are becoming more prominent, and he circles his arms above his head before repeatedly clashing the dinosaurs together with force, roaring and then moaning.*

Alfie's behaviour was to check if Mrs Simms was observing him and then to wait until she had re-engaged with her group before carrying on with his game. He was probably aware of Mrs Simms' presence and the impact that she could have on him being able to continue playing. At one point, he became so absorbed that his awareness of his teacher's presence seemed to have waned, suggesting how absorbed he was in his imaginative play.

Stern (2010) suggests that a form of vitality is a Gestalt, a unique 'form' emerging when the experiences of movement, time, force, space, and intentionality come together. He defines it as a felt experience of force in movement with a temporal contour and a sense of being

alive or going somewhere. There is a pre-eminence of movement in perceiving a form of vitality. Forms of vitality are different from experiencing a sensation. Sensations originate from specific sense organs in the body, like touch; they can also be generated by emotions. They are modality specific. Forms of vitality, however, are a composite experience where many modalities come together and are shaped into a dynamic event. We see this in Alfie's repeated interaction with the dinosaurs.

Alfie's repeated banging together of the dinosaurs makes this behaviour stand out; it seems to have meaning for him. What that meaning is and what impact the play is having are is not knowable. Although appearing to be the same repeated action, Massumi (2011:50) describes these repetitions as 'thinking-feeling', each being different because there will be 'microvariations that give it its singular experiential quality'. Ingold (2013:100) quotes Sheets-Johnson (1982), who states that 'the thinking is the movement' so that 'to think is to be caught up in the dynamic flow; thinking is kinetic by its very nature'. Applying this idea of thinking in movement to Alfie's play enabled me to see the meaning being produced, but at the same time left me unable to categorise it or boil it down to the completion of a learning objective.

When Mrs Simms stopped his dinosaur play for the second time, rather than shout over again, she placed herself close to him, adding her bodily physicality to the immediate assemblage. Instead of touch, she used her voice to break his state of enchantment. At this point, infinite options were available to her regarding the language she could have used to initiate this interaction. However, she chose to try to redirect the play by referring to the adult-prescribed learning outcome she had attached to this activity. The fact that she did not pause in between her questions suggested that she did not expect a response. This may have been a behaviour management technique on her behalf. Her actions suggested she gave no value the specific type of play that Alfie was involved in.

In terms of this vital form, the actions and physicality of Mrs Simms were pushing back against the force of Alfie's wave of vitality. This force could be seen within Alfie both through the intensity of his stare and his decision to remain mute, both of which appeared as defiant acts. This force was also evident in the physicality of his body as he clamped the

dinosaur to his torso with his arm. Alfie's movements were small and occurred quickly, but they were enough to signal to that he was in a state of defiance. In response, Mrs Simms increased the dominance in her voice and physicality, moving to a state of touch initiated by her. Although this touch was not forceful, it contained force and signalled domination. She was going to hold his hand. Its intended message was clear.

Even though Alfie conceded by taking her hand, his body signalled something very different. In a further act of dominance, the teacher removed the dinosaur from under Alfie's arm and placed it out of his reach. With what she possibly perceived as the distraction physically removed, her tone changed to encouragement, not offering Alfie opportunities to play or interact with his peers; instead, she offered the opportunity to read his home reading book. We might interpret this as an attempt to further his academic development.
The wave of vitality that Alfie had been caught up in had not yet dissipated as he was led away. In what appears as a final act of control from Mrs Simms, he was placed in a chair with his back to the dinosaurs. He maintained constant eye contact with the T-Rex until he was physically unable to see them any longer.

The next section will encapsulate the insights that have been gained from the diffractive analysis of this vignette.

Insights Gained so Far

Alfie's playful interaction with the plastic dinosaur when diffracted through New Material Feminists such as Lenz Taguchi (2010) suggests that learning is not confined to the realm of cognition, and involves complex entanglements between the material, spatial, and temporal elements, human and non-human. The diffractive accounts given above have put New Material Feminist concepts to work and this section draws out some insights that relate to learning in early years classrooms. Lenz Taguchi's (2011) theorisation of intra-active pedagogy draws attention to the relational dimensions of education by considering the agential role of materials and non-human entities. She argues 'intra-action calls attention to the idea that learning, knowing, and thinking do not take place only in the realm of the human but are intertwined with the material, spatial, and temporal arrangements of human

and non-human actants' (Lenz Taguchi 2011:34). In this scenario, Alfie's interaction with the dinosaurs exemplifies intra-action, where the child and the dinosaur mutually influence and shape each other's actions to create significant meaning. It also illuminated how the power structures between Mrs Simms and Alfie played out and stopped a child's immersive play. Stern (1985) highlights the importance of interpersonal and affective experiences, emotions and affect in learning. He argues that 'affectivity has a profound impact on cognitive functioning, social behaviour, and personality development' (Stern 1985:12). Alfie's affective engagement with the dinosaurs and the subsequent disruption of that engagement by the adult demonstrates the intricate interplay between affect, power, and gendered expectations within the educational settings.

MacLure's (2013) work on embodied pedagogies highlights the significance of embodied experiences in learning. MacLure (2013) argues that embodiment is not just a physical presence but a way of being in the world, where learning occurs through embodied interactions with materials, spaces, and others. As MacLure explains (2013:42), 'embodied pedagogies emphasise the role of the body in knowing and experiencing the world, foregrounding the significance of movement, sensation, and bodily engagements in learning'. This approach underscores the need for educators to create embodied learning opportunities that actively engage children's senses and movements and provide space and time for children like Alfie to explore and discover the agency and vitality of non-human entities. MacLure (2013:4) also suggests that 'matter is not a passive recipient of human design but an active contributor to the shaping of events, practices, and social relations'. In this scenario, the dinosaurs and the physical environment of the play area emerge as vibrant matter, influencing Alfie's engagement and learning experience. The adult's intervention can be seen as a manifestation of power dynamics between human and non-human elements. Her use of language to repeatedly redirect Alfie's play demonstrated the power of language to shape and regulate behaviour and stem or block the flows of vital energy that exist in many forms throughout the space.

Drawing on Stern's (2010) insights could provide valuable guidance in creating learning environments that acknowledge the affective dimensions of children's experiences, valuing their emotional engagement and agency. This perspective highlights the importance of

recognising and validating children's emotions as closely connected to their vital energy and central to their learning process. In parallel, Lenz Taguchi's (2010) intra-active pedagogy offers a compelling framework for reconceptualising materials and objects in early childhood educational settings. Lenz Taguchi (2010) emphasises the agential role of materials and objects in the learning process, suggesting that they actively shape and influence children's engagement and meaning-making, arguing that materials and objects are not passive but are pivotal in the process of co-construction of knowledge with the child. This perspective challenges traditional notions of materials as mere resources and encourages educators to view them as dynamic learning agents. Considered alongside Bennett's (2010) vibrant matter, the vitality and agency inherent in classrooms come to light, they suggest how materials' inherent liveliness and interconnectedness emphasise their capacity to affect.

These insights suggest how practitioners might be supported to re-evaluate their habitual educational practices and spaces. My knowledge of them has been key to the process of reshaping my pedagogical view, helping me to understand and articulate the need to move away from a focus on traditional learning outcomes to one that embraces the vitality, agency, creativity and multisensory nature of children's intra-actions with the world around them. The relationship between Alfie and his teacher in this example highlights the power dynamics that are at play in the Reception classroom and how they shape children's relationships, not only with other children and adults but also with the materials and spaces that they inhabit.

Alfie's vital engagement with the dinosaur shows the power of embodiment, affect and sensory experiences in facilitating the potential for what Bennett (2010) enables us to see as enchantment. This knowledge unlocks the potential to see, value and promote the vitality and agency of children's learning through play. It also enables the affective dimensions of children's experiences, reconceptualising materials and objects as active agents to come into view.

This exploration of Alfie's interactions with the Tuff Tray, dinosaurs, and his learning space presents an opportunity to view vitality and enchantment within the Reception classroom.

Alfie's engagement with the Tuff Tray and dinosaurs reflects a vital, embodied connection with the material that created moments of enchantment as he explored the possibilities within the environment. It will also explore the disruption that emerged when what appeared to be adult preconceptions of 'learning' disrupted the organic flow of Alfie's exploration, stifling the vitality and enchantment that arisen in his engagement with the world he had created. It is an opportunity to examine the dynamic interconnections between space and object as the emergence of specific kinds of child-oriented worldings.

The Tuff Tray assumed a central role in this milieu, transcending its function as a mere container for the dinosaurs. It served to both designate a free play space and a boundary to the teacher's classroom world. It also functioned as an object that delineates the purpose and confines of Alfie's play. The teacher's verbal and written prompts linked to mathematical concepts on the tray explicitly tether the dinosaurs to the teachers' predefined learning outcomes; she attempted to shape the narrative and imposed a structure on Alfie's exploration, which he appeared to actively resist.

The Tuff Tray functioned as a co-creator of meaning, shaping the boundaries associated with Alfie's play. The relationalities between space, object, and child became evident as Alfie engaged with the dinosaurs within the confines of the material-discursive apparatus. The boundaries of 'self' and object (dinosaur) blurred as he immersed himself in this multi-dimensional ensemble. His actions showcased a directionality, leading eventually to complete absorption, that drove his play even within the framework constructed by the teacher.

The intervention of the teacher and the eventual removal of Alfie from the tray to a table marked a forced shift from unstructured, vital play (Stern 2010) to more formal learning. Here, relationalities took on a different form. The teacher's attempt to control Alfie's vital engagement reflects the influence of power dynamics within the material-discursive context. The structured environment altered the nature of agency and autonomy previously seen in Alfie's imaginative play.

This forced shift altered the conditions for possibilities, impacting the nature of the material entanglement that was previously evident in Alfie's imaginative play. Without the interruption, Alfie might have continued to explore and engage with the vital energy of his play within the more open and unstructured environment provided by the dinosaurs.

Alfie's embodied responses and deep connection to the material world demonstrate the intricate ways children engage with vibrant matter within the material-discursive context. The teacher's touch symbolised not just physical action but the assertion of authority, disrupting the delicate balance of agency and affective engagement. The relationalities within the material-discursive apparatus between space, object and child play a crucial role in enabling vital energy to build in play. Alfie's worldings involve imaginative play, offering glimpses of potentiality within his intra-actions (Barad 2007). The interruption by the teacher, driven by a traditional understanding of noise levels and compliance, underscores the need for a more nuanced approach that recognises the agency within vibrant matter (Bennett 2012) and the affective dimensions of children's engagement within the material-discursive world.

The next vignette takes place in St John's Primary School. The instances recorded occurred in the afternoon. Due to a lack of staffing, the children have not had the opportunity to play outside. This vignette explores how vital energy, and states of enchantment can be solicited through negative engagement.

Very Sad Cloud

Introduction

I have chosen to focus on the following extract because, apart from being a moment from my notes that I returned to again and again, it also provides the opportunity to expand the concept of enchantment that I have discussed so far. Events have been diffracted with Bennett's (2001) concept of enchantment to highlight moments of intense experience that

occur for individuals and group. The vignette will explore the role of disturbance as a vehicle for transporting individuals to a state of enchantment and show negative emotions as well as positive ones are manifest. It pays attention to negative vital energy and how this seems to play a role in children's behaviours and responses. It explores the dynamics of shared intensities across a whole class group, and this seems to generate an atmosphere that impacts children's expectations and understanding about what it is to 'behave' at school. It explores children who do not or cannot conform to behaviour systems and how they become what Walkerdine (1984) describes as 'othered'.

The Force of Materials

The account reconstructed from my field notes begins and ends with a wooden peg. A peg is a small and seemingly insignificant item that, as will become apparent, can possess huge agency and power, with the capacity to seemingly incite strong emotions and have a role in children's and teachers' behaviours. The peg is an example of the force of materials to participate in shaping children and teachers' experiences, interactions and behaviours. To show how information can be shared in a Reception classroom space, events will be diffracted through Macbeth's (1990) concept of 'classroom talk'. Key information that the adults want all the children to be aware of and comply with can be relayed using very deliberate and public classroom talk. The tone and content of this talk can act to fuel or subdue the vital energy that is generated within the space and shape the behaviours and dynamics within the classroom, underscoring the interconnectedness of language, behaviour, and the flow of vital energy. To highlight the ways in which negative emotion can play a significant role in shaping children's experiences, Niccolini's (2016) concept of affective encounters will be diffracted with accounts of classroom events to show how emotional experiences are inextricably linked to children's actions and reactions, and perhaps influence behaviours and engagement in classroom activities.

Did You Move Your Peg?

It is mid-afternoon, and the room feels very warm. The children have been working inside all afternoon as they are being removed from the classroom in groups to do extra phonic

sessions with one of the adults. This means that there are not enough staff to supervise children inside and outside. Therefore, everyone is staying in. As the children have accessed the play provision in the classroom, they have moved it, used it and left it in the places where their play ended or transitioned. The space is beginning to feel fuller, smaller, and more chaotic. I am aware that the noise level of the children's play has increased as the afternoon has gone on, and the adult has stopped the children on several occasions to remind them about the classroom rules about 'being noisy'. The 'sad cloud' has been referenced as a sanction for those children who cannot be quiet.

The sad cloud is part of the school's behaviour system, which consists of a laminated illustration of a sun with a happy face, a light grey cloud partially covering the sun with a sad face and a thunder cloud with rain and lightning bolts that has a very sad face. Each child has a clothes peg with their name written on it and a photograph of their face stuck to the end of it. These pegs are positioned around the sun illustration like its rays. If a child does something the adult feels is outside the agreed classroom rules, their peg is moved from the sun to the sad cloud. If the child can demonstrate that their behaviour is appropriate, then the peg returns to the sun (the teacher's decision). If the child continues demonstrating inappropriate behaviour, their peg is moved again to the very sad cloud. The children also know that the Headteacher regularly visits classrooms to monitor who is on the sad and very sad clouds. If you are found there, then you have to explain to the Headteacher why you are there. Your peg is only ever returned to the sun when the adult deems your behaviour appropriate.

When I arrived in the morning, I noticed that one child's peg was on the very sad cloud, and I heard this fact referenced twice by the teacher (Mrs James) when she was talking to the children about the noise level. 'I do not want anyone to have to join Nevaeh on the very sad cloud. I am not sure what Mr Armstrong will say when he sees it.' At the mention of Mr Armstrong, many of the children looked at Nevaeh; she looked down at her feet and put her fingers in her mouth.

Towards the end of the afternoon, Mrs James stopped the children and asked them to tidy up. She put on the 'tidy up music', and the children set to work on the huge job of tidying up. The noise level rose again as the children busied themselves. This time it went unchecked. At some point, the noise of children tidying was punctuated with a group of girls calling out to Mrs James. 'Miss, Miss, Nevaeh has moved her peg! Miss… Nevaeh has moved her peg!' This call was so loud, and the news seemingly so shocking that it brought everyone to a standstill as all eyes scanned the space to find Nevaeh. The following conversations ensued:

Mrs James: 'Nevaeh, did you move your peg?'
Nevaeh: 'No!'
(pause)
Amar: 'She did, I saw her.'
Mrs James: (to Nevaeh) 'Did you?'
Nevaeh: 'No!'
Chloe: 'She did Miss, she tells lies!'
Mrs James: 'I will give you one last chance, Nevaeh. Did you move your peg back to the sun?'
Nevaeh looks at the ground and puts her finger in her mouth, sucking at them.
Mrs James: 'Well, I am moving it back, and it will stay there until Mr Armstrong has seen it.'
Nevaeh looks at the adult, and she appears to look frightened.
Mrs James: 'Go and sit in the book corner until I can come and speak to you.'

Nevaeh goes to the book area and throws herself face-down on large cushions. I cannot see her face, but she appears to be crying. No teachers or children approach her. The children are all staring at her. Mrs James then tells them to keep tidying up as there is still much to do. The children carry on tidying, but they do it in almost silence, in stark contrast to their earlier behaviour. Mrs James has asked the children to stop tidying and come to the carpet area for a story. Nevaeh is still in the book corner but has stopped crying and is looking at the teacher. It feels like she is waiting for permission to come and join the other children for their story. Mrs James does not look at her again, however, the children acknowledge Nevaeh and stare at her as they pass her to move to the carpet. Nevaeh narrows her eyes and pulls faces at them as they pass, wobbling her head backwards and forwards and occasionally sticking out her tongue. She begins to become more and more animated in her

movements. She is responding to the eye contact of the other children's stares. She has been sitting back on her knees but is now raising her body so that she is kneeling up and then sitting back down again. Cushions prop her up. This action is regular, almost rhythmic. As she becomes more agitated, the speed increases. While I am watching Nevaeh looking at the children assembling on the carpet, I am aware of a quick and significant change to the atmosphere in the classroom. There are some audible intakes of breath, and there is suddenly a hushed but feverish chatter. Mr Armstrong is at the door looking in. I watch Nevaeh feel the force of the change in the atmosphere. I can see her lock onto the gaze of the children and then see her turn to look at what the children are looking at. When her gaze reaches the door, she is transfixed for a second before taking a deep breath and throwing herself back onto the cushions. It looks like she is crying again.

Mr Armstrong comes into the classroom and greets the children. He has yet to see Nevaeh. As soon as they have finished collectively chanting 'Good afternoon, Mr Armstrong' a child shouts out, 'Nevaeh moved her peg off the very sad cloud'. Mr Armstrong looks at the behaviour chart and then, in a large voice reminiscent of pantomime, says, 'I beg your pardon? Is this true, Miss?' to which Mrs James replies, 'I am afraid so, Mr Armstrong. Nevaeh has been on the very sad cloud again today, but she decided to move herself back to the sun without permission.' Mr Armstrong is searching the carpet area for Nevaeh but cannot see her. The children can see this, and one shouts out, 'She is in the book corner… crying'. Mr Armstrong faces the book corner and says, 'Come here, Nevaeh'. Nevaeh does not move. Her fingers are back in her mouth, and she shakes her head. Everyone is watching. Some children have moved onto their knees so that they can see. The atmosphere in the room is tense, and there is a strange sense of almost excitement mixed with fear.
Mr Armstrong makes a second request 'Come here'. To which Nevaeh shakes her head again. Mr Armstrong responds, 'Do you want me to ring your mum?' At this point, Nevaeh slowly stands up and walks to stand in front of him. She is still sucking her fingers and is now crying. She looks at the floor, but her body moves as she sobs.

Mr Armstrong then addresses Mrs James. 'I cannot believe that this has happened again, Miss. Can you?' Mrs James shakes her head. Mr Armstrong continues, 'This is not good enough, Nevaeh. You know what you must do to stay on the sun and if you cannot do it, you

will have to come and sit in my office with me all day. Do you understand?' Nevaeh does not respond or look up. Mr Armstrong then turns to Mrs James and says, 'I will be checking where Nevaeh's peg is tomorrow, Miss, and if it is not on the sun, then she will need to come and work with me.' He then tells Nevaeh, 'Go and sit on the carpet.'

Nevaeh walks to the carpet without looking up. As she sits down, two of the children nearest her move away. Mr Armstrong nods to Mrs James and then leaves.

Negative, Vital, Enchantment

In the following section, Bennett's (2001) writing about enchantment and Walkerdine's (1999) concept of 'Othering' will be diffracted alongside a detailed description of events that suggest how negative vital energies and affects can build and have significant impact in the same way as positive ones.

In the above account, it seems that at times Nevaeh experienced moments that created a 'condition dense and intense enough to stop you in your tracks' (Bennett, 2001:111). Bennett stresses that enchantment is a 'mixed bodily state of joy and disturbance'. The feeling of joy or euphoria is crucial in transporting you into a state of enchantment. There was no joy in Nevaeh's experiences during her interactions with adults or children for the duration of these field notes. Bennett (2001:5) acknowledges that fear can accompany a state of enchantment:

> '…fear cannot dominate if enchantment is to be, for the latter requires active engagement with objects of sensuous experience; it is a state of interactive fascination, not fall to your knees awe. Unlike enchantment, overwhelming fear will not intensify perception but only shut it down.'

Bennett (2001:5) suggests that a state of enchantment embodies ' a pleasurable feeling of being charmed by the novel and as yet unprocessed encounter and a more unheimlich (uncanny) feeling of being disrupted or torn out of one's default sensory-psychic-intellectual

disposition.' She adds that the effect of enchantment is a mood that feels like you are returning to the sort of excitement that you experienced about life when you were a child.

Although Nevaeh and many of the other children were at points transfixed to the point of immobilisation, they were not enchanted. Here we have an example where opportunities for enchantment are blocked by a behaviour management system that has been put in place to encourage four-year-old children to comply with teachers' demands. We can speculate that Mrs James's actions were oriented to meet a set of outcome-based attainment criteria linked to government policy and in particular her sense of the need for Nevaeh to 'tell the truth'. It is interesting that Mrs James assumes that some children's behaviours are acceptable, such as when a child accuses Nevaeh of being a liar. By accepting the prejudiced opinion from peers, children in the class are seemingly invited to collude with the teachers to judge and condemn Nevaeh as 'Other'.

At the end of the session the children were sent in groups to collect their coats and belongings from a separate cloakroom space. I positioned myself in that space so I would not be within earshot of Nevaeh or any other children who were not collecting their coats. As the children came out, I asked them if they had ever been on the very sad cloud. Every child said 'no', some with a sense of horror that I could even have thought they might. Some children used phrases like, 'No, I am not naughty', 'No, you only go on the very sad cloud if you are really bad', 'I am not a naughty girl like Nevaeh', and 'Jamie did once, he was a naughty boy, he doesn't come to this school anymore'. I was intrigued by the way that the children were categorising themselves and others as either 'naughty' or 'not naughty' and how Jamie and Nevaeh had earned and retained the label of being a 'naughty child' even though, in Jamie's case, he was no longer at the school.

We can speculate about what behaviours make children 'naughty'. Is it the behaviour, or is it the environment in which the child is given the opportunity to 'be'? The word behaviour comes from the Middle English word 'havour', which means possession. Accordingly, to behave is to have possession of yourself. From my perspective, Nevaeh's non-compliance with the behaviour expectations of the classroom was an unrealistic expectation.

Diffracting this incident with Stern's (2010) concept of vitality highlights an element that has been featured across the previous two vignettes presented in this chapter. In this example, I focus on how the whole class became enveloped in a wave of vital energy that seemed to have been fuelled by negative rather than positive affects.

Barad's (2007) concepts on matter and materiality will be put to use to suggest that in the context of the whole space the behaviour chart was a very small component, stapled to the side of a cupboard. However, mentioning it could solicit feelings of immense fear and jeopardy in children whilst at the same time equipping the adults with a sense of power. The behaviour chart carried energy (vitality); the sight (or even the thought of it) appeared to affect those who interacted with it, many of those feelings possibly registering on a subconscious level but of significance in the way that children build their capacity to relate to others and navigate their way through their experience of the Reception classroom.

Stern (2010) suggests vitality is a force, a flow of energy. 'The felt experience of force – in movement – with temporal contour, and a sense of liveness, of going somewhere… accelerating, exploding and fading' (Stern, 2010:110). Stern refers to 'the forms of dynamic flow that carry social behaviours'. Through the account of Nevaeh moving her peg on the behaviour chart, a collective flow of vitality was perhaps instrumental in shaping the behaviour of everyone present.

I was already aware from my time in this classroom that the adults had identified Nevaeh as a child who brought some additional needs. In an earlier entry into my field notes, I recorded that during a feedback session following a visit, a team member remarked about Nevaeh, 'I think there are some significant mental health issues at home, and mum is on her own'. It seemed that Nevaeh has already acquired an identity as a 'problem' or 'difficult' child who is beginning to stand outside of what is perceived as 'normal' or 'usual' development. Walkerdine (1999:2) suggests that these judgements are informed by developmental psychology and 'privilege a particular model of normality, to the extent that certain children, who are 'othered', become the object of pathologisation discourse.' Once a child has been 'othered' by their education community, it seems almost impossible to lose that identity as it is constantly confirmed and reinforced by subconscious bias. Even

though the adults in the classroom have identified that Nevaeh's parenting could be a reason for her nonconforming, the responsibility is still placed on her to be a 'good' child, her behaviour constantly being held up against definitions of what constitutes a 'normal' or 'well behaved' child.

Classroom Talk

The account records that the 'sad cloud' has been referenced as a sanction for those children who cannot be quiet. Macbeth (1990:258) describes this signalling within the classroom as 'classroom talk', stating that it is 'the work of making 'knowledge' public, witnessable, and observable from any chair in the room.' It becomes an efficient way of relaying the desired knowledge to all the children in the room. However, the public nature of this signposting and the confirmation or retribution if you achieve or fail to achieve what is required links directly to a child's public reputation. All children succeed or fail numerous times a day in full view of the rest of their peers. This desire for public affirmation or fear of public humiliation will affect children's conscious and subconscious behaviour and choices, inhibiting their vital forces and, in turn, their material and relational encounters and the affectivity attached to these.

Diffracting this event through the concept of affect, a powerful force of emotion, mood, and sensory experiences that shape our responses to an event, Niccolini (2016:246) talks about affect and affective encounters being able to move knowledge and 'stimulate bodies (e.g., with excitement, anxiety, anger, outrage, activism, feeling progressive, feeling political). Produces subjectivities…[affect] bears a potent capacity to teach'. Stern clearly states that affect is more related to the feeling of an event, whereas vitality is the energy force that moves the event forward from inception to conclusion. When Mrs James specifically references Nevaeh by name as an example of non-conformist behaviour, also including the ultimate threat of a higher power, the Headteacher, she confirms the moral order in the classroom and everyone's place.

> *'I do not want anyone to have to join Nevaeh on the very sad cloud; I am not sure what Mr Armstrong will say when he sees it.'*

Saying ‘what Mr Armstrong will say when he sees it’ implies that it will inevitably happen. It informs the children that Mr Armstrong is coming, and he will see Nevaeh’s peg and anyone else’s with it. The desired outcome for the adult is perhaps that the children will modify their behaviour because the vital feeling of fear is greater than that of impulse or pleasure. Her words have the potential to further cement the perception of Nevaeh as a ‘naughty’ child and could indicate that she will get into trouble at some unspecified point with someone the teacher is implying she should be worried about.

As the afternoon progressed on this visit, I traced pockets of vital energy that were ebbing and flowing within groups of children. The vitality mainly manifests itself in their physical movement and the volume of their voices. There were times when the noise level of each of these vital episodes would rise and join together to create a moment of shared vocal energy that was then dissipated by the adult’s call for quiet, at which point the vital wave would be contained again within the remit of the original players.

There was a definable point when all of us became part of one vital moment, and that was when a child cried out, ‘*Miss, miss, Nevaeh has moved her peg!*’, a message that was so shocking to the group that it brought everyone to a standstill. This was not a slow accumulation of affect but the ‘felt experience of force – in movement – with a temporal contour, and a sense of aliveness, of going somewhere… accelerating, exploding and fading’ (Stern, 2010:8). This moment was forceful, tense, powerful, binding and halting. A powerful assemblage of individual emotions, memories, and feelings individually experienced but collectively shared.

Shifting my perspective through the lens of Deleuze and Guattari’s (2004) concept of becoming, I was able to articulate how parts are drawn together into an assemblage constantly affects one another. This places the assemblage into a state of constant change, creating something that has never existed before. The assemblage may possibly trigger feelings and emotions that may have occurred in a different time or place but are brought to the fore once again in these new moments, and the energy (positive or negative) they bring with them fuels the vital energy. All the elements that inhabited the space at that

moment were participating in a singular wave of vital energy. Elements are drawn together in an intra-active assemblage, each one responding to the others.

Stern (2010) enables me to progress this thinking by describing what I have observed as affect attunement; the ability of one person or group to share the subjective state of another. Attunement is achieved by matching forms and expressions of vitality. In this case, the expression of the vital energy is one of stillness and silence. Not the sort of stillness that comes with a state of enchantment, but one that comes from a state of shock or surprise. All actants who share a subjective state do not have to mirror each other's movements or behaviours but share the event's tone. This is because most attunement to affect happens to us in unconscious awareness. Stern, writing for the Boston Change Process Study Group (2018:103) expanded on this thought, saying that the same neurons fire in the same way, regardless of whether we carry out a specific action or just watch someone else do it, if we have had experience with that action before. He proposed that when in a multiple or group, humans non-consciously register the micro-versions of movements in the people around us and we engage in a non-conscious 'trying on' of their patterns, intentions and affects.

Appreciating the extent of this constant nonconscious participation deepens our grasp of the profound way in which we continuously experience the bodily states of others (BCPSG, 2018).

As my fieldwork progressed, these concepts of becoming and affect attunement enable me to become increasingly aware of how children establish in their interactions with each other. They often appeared to mirror each other's physical actions. Sometimes, what seemed like the emotional responses of their peers (and adults) appeared to be shared or caught like a contagion, resulting in the building of vital energy, which in turn could often be felt through physical phenomena, such as bodily movement or the volume of voices, but it could also be felt in the atmosphere of the space.

Becoming Othered

Niccolini (2016) shows that minoritised children are often asked to restrain their energy, movement, and affective and embodied connections. Moments of spontaneity, improvisation and playfulness often hold little significance and can be seen as threatening or having the potential to disrupt. Nevaeh's decision to return her peg to the sun may have been a cognisant, thought-out process or possibly a more spontaneous emotional reaction to the situation that she found herself in. However, it was not born out of a sense of playfulness but a sense of fear that she would experience a negative interaction with Mr Armstrong, whom she had been informed 'would see' that she was on the very sad cloud. It was tidy-up time, which signalled the end of the day. Nevaeh would know that Mr Armstrong's visit was imminent, and she removed the imminent threat in self-preservation. The risk that she was taking in moving her peg and the consequences of being discovered (which were significant) give us some insight into the level of fear and discomfort that she appeared to be experiencing. It is likely that, in this instance, a powerful vital energy was produced by negative emotion.

According to Mrs James, Nevaeh had a reputation as a child who did not 'behave'. The teacher had already referenced it when she talked about other children joining Nevaeh on the very sad cloud, and the other children use phrases like 'she tells lies!' and 'I am not a naughty girl like Nevaeh'. Once a child has gained a reputation, it is difficult for them to change that view. The more the reputation circulates within the school community, the more the community will look at that child's behaviour to confirm their belief, orienting to the child's poor behaviour and showing less recognition for their compliance. As a child with a poor reputation for behaviour, you are less likely to be given the opportunities to play with and explore your self-expression. Places where you can play, sit, and eat, are restricted because of your inability to 'behave'. Therefore, the opportunities for enchantment and to experience waves of positive vitality are significantly reduced.

When examining Bennett's (2010) concepts through Niccolini's perspective, it becomes evident that the opportunity to encounter 'enchantment' varies for children who have experienced minoritisation within their environments. Specifically focusing on Nevaeh's

experiences, we see that when she expressed spontaneity and playfulness in the classroom, rather than be encouraged or celebrated, her behaviours were seen as disruptive or negative by both her peers and the adults in the space. This resulted in them being stopped and shut down, therefore giving her fewer opportunities to experience enchantment and to engage in the generation and sharing of vital energy with the group around her.

Waves of Negative Vitality

It had been made clear to Nevaeh by Mrs James that Mr Armstrong would see that she was on the very sad cloud. It appeared from their discussions that the children all knew that he visited the classrooms most days to check if any children's pegs had moved from the sun. The routines of the day should have been very familiar to the children by now, so it is likely that she was familiar enough with the day's timetable to know that tidy-up time came before story time, which came before home time. This would enable her to estimate the time that Mr Armstrong was likely to arrive. She had moved her peg back to the sun using the busyness and distraction of tidy-up time. It did not appear to be a well-thought-out strategy, as the teacher and the children knew that she was on the very sad cloud, but it potentially showed her anxiety about getting into trouble with Mr Armstrong. Her actions also carried the risk of discovery and further punishment, but whether she was aware or conscious of that fact was impossible to discern. If Nevaeh's actions are viewed as being part of a growing wave of vitality, her vital energy may well have begun to build as a result of interactions with adults and children that, for the researcher, went unseen, possibly building significantly during actions and intra-actions that resulted in her peg finally being moved to the very sad cloud. This could have been exacerbated further by the adult's request to the other children not to be like Nevaeh and the reference to Mr Armstrong knowing what she had done. The peak of this wave appeared to be her decision to move the peg back to the sun. This action solved her most pressing problem and potentially restored a sense of balance; a reset, and a chance to start again.

Vitality forms often involve matching intensities; this can be intensities of movement, volume, rhythm, speech – various characteristics. I have discussed previously in this chapter where I have seen these vitality forms shared between pairs of groups of children. However,

in the assemblage that followed the moving of the peg, the intensities of the vitality form were experienced by everyone in the room. We all became affective in this rising wave of vitality. As Chloe informed the adult that the peg had been moved, most of the children stopped tidying and looked at the adult. When the adult then asked, ‘Nevaeh, did you move your peg?’, everyone stopped. The question was not asked in a gentle coaxing tone, and the tone was one of cross accusation. When Nevaeh answered, she matched the tone of the adult and shouted, ‘No!’. The fact that she shouted back to the adult created another rush of vital energy. The children looked visibly shocked and looked between Nevaeh and the adult. You could sense the tension.

Amar, another child in the class, further raised the tension, saying, ‘She did; I saw her’. What is interesting about this response is why Amar would say it, as she has nothing to gain by passing on this information other than ingratiating herself to the adult. MacLure et al. (2012) explore the complex ways in which children navigate the expectations of "goodness" in early years classrooms. Their research reveals that being a "good" pupil involves more than simply following rules or meeting academic standards. Instead, children must engage in sophisticated performances of goodness that are recognised and validated by adults. The authors argue that children actively participate in constructing and negotiating what it means to be "good" within the specific context of their classroom. This process involves interpreting subtle cues from teachers and peers, as well as understanding the often unspoken norms and values of the educational setting. The study also highlights the affective dimensions of being seen as "good." Children's efforts to secure positive recognition from adults involve complex emotional work, including managing disappointment, pride, and the desire for approval. By examining these dynamics, MacLure et al. reveal how the category of the "good pupil" is not a fixed or neutral descriptor, but a site of ongoing negotiation and performance that shapes children's experiences and identities within the classroom. This nuanced understanding of how children engage with and perform "goodness" offers valuable insights into the complex social and emotional landscape of early years education, challenging simplistic notions of compliance or misbehaviour.

When Chloe said, '*She did Miss, she tells lies,*' she mirrored Amar's behaviour. Also, Mrs James did not wait for Nevaeh's final answer. She took the word of the other two girls and put more sanctions in place. For Nevaeh, I saw her initial strength of denial weaken to a much quieter 'no!' the second time. By now, her shoulders had dropped, and her chin had moved towards her chest. She looked towards the floor and put her fingers in her mouth. Sucking on your fingers for a child of this age is often used as a method of self-soothing when upset or anxious, but she also used her hands to fill her mouth, which would stop any other words from coming out. Although affect attunement may involve the use of speech, the content of the speech is irrelevant and does not give rise to the experience of attunement. It is the sonic, visual and kinaesthetic aspects of the interaction that matter (BCPSG, 2010). Sometimes these aspects can calm and soothe, and on other occasions, they will extend and heighten the intensity of the attunement. Nevaeh has been shunned by her key adult and her peers.

Mrs James 's action to move the peg back to the very sad cloud 'until Mr Armstrong sees it' did nothing to calm and reassure Nevaeh and sent another palpable wave of energy through the space. Nevaeh looked visibly afraid, and the other children appeared shocked and perhaps also excited at what they thought might have been about to happen. A definite collective force was released into space due to Nevaeh's actions. Once again, Nevaeh was removed from the group, singled out as an example of someone who cannot 'behave'. For the group, her isolation brought them together in solidarity. They were not and did not behave like Nevaeh. This shared characteristic further fed their vitality as a group, but now their vital energy was quiet. Gone were the busy movements and the loud chattering voices. The children carried on their tasks but in almost silence.

Stern describes vitality as a wave that is 'accelerating, exploding and fading' (Stern, 2010:8). The children's quiet was not the fading of the vitality, only of the volume. The vitality continued to build for us all as we were then anticipating the arrival of Mr Armstrong. Nevaeh was also visibly upset, and the noise and the physicality of her sobbing were more evident now that the children had become quiet. Although none of the other children were crying, there was a matching of intensity and tone of vital energy.

When Nevaeh was sent to the book area, she threw herself face down onto the cushions on the floor and began to cry. When she shouted 'no!' at the adult, it felt like her vital energy was reaching a peak. The following actions, including Nevaeh putting her hands into her mouth, were like a subconscious effort to physically stop the flow and halt the release. When she threw herself to the floor and then sobbed, this wave of vitality could finally explode and begin to fade. Nevaeh stopped crying and sat up when the adult invited the children to come to the carpet for a story. She actively tried to catch the teacher's gaze, tracking her with her eyes and even kneeling at one point to make herself more visible. Mrs James either did not notice or chose not to acknowledge her, as I mentioned in my fieldnotes:

> *However, the children acknowledge her and stare at her as they pass her to move to the carpet. Nevaeh narrows her eyes and pulls faces at them as they pass, wobbling her head backwards and forwards and occasionally sticking out her tongue. She begins to become more and more animated in her movements. She is responding to the eye contact of the other children's stares. She has been sitting back on her knees but is now raising her body so that she is kneeling up and then sitting back down again. Cushions prop her up. This action is regular, almost rhythmic. As she becomes more agitated, the speed increases.*

There was a sense that energy was beginning to build within her again. It was almost like she was pumping herself up. In this complex choreography, there was a struggle for power and the space is constantly being reconstructed. The cushions, her body, the other children and the classroom space all have entangled material agency. The children sensed this, too, as they looked from Nevaeh to the adult as if to alert her to yet another example of Nevaeh's bad behaviour. One of the critical features of Stern's (2010) descriptions of vitality is that it is polymodal. Significantly, any responses are matched with effective tone and intensity, and there does not have to be a match in form. Stern (2010) points out that humans will work across multiple modalities to communicate attunement, usually without speech or conscious awareness.

As I recorded in my field notes, I became aware of a marked change in the atmosphere in the classroom, although I was unable to record what prompted that awareness. It was akin to the feeling of being watched or a sense of impending dread, a material moment.

As the children moved to the carpet, Mr Armstrong appeared at the door. He was visible through the glass, standing on the other side, about to enter. Some of the children gasped, and that is what alerted Nevaeh to what was happening. She whipped her head around, following the gaze of the children, and when she saw Mr Armstrong, her body became rigid; still kneeling up, she took an intense breath in and threw herself back onto the cushions and again began to cry. There was no sound this time, but I could see her body shuddering with the exhalation of breath. Mr Armstrong greeted the news of Nevaeh moving her peg with an exaggerated response of shock and horror, mainly evident in the volume of his voice and a pantomime element to how his words are delivered. He also addressed his question of 'is this true?' to the adult, including her in the responsibility for Nevaeh's 'misbehaviour'.

Mr Armstrong did not move from his position but instructed Nevaeh to come to him. He saw himself in a position of power and was asserting it. Even when Nevaeh showed emotion that could be interpreted as fear, he maintained his position and requested for her to approach him, showing that some bodies matter more materially than others.

Nevaeh repeated her behaviour from earlier by not making eye contact and pushing her fingers into her mouth. She appeared to be afraid, and although what she was afraid of was making her reluctant to approach Mr Armstrong. In terms of vital energy, she appeared to be using her physicality to stop it from escaping from her body. Only the threat of a call to her mum persuaded her to move reluctantly. At this point, there was silence in the rest of the classroom. The children who could not see Nevaeh from where they were sitting were kneeling up (also an overlooked breach of the classroom rules) to gain a better view, the hard floor pushing into their knees. There was a gladiatorial feel to this assemblage. The vitality was electric. I recorded in my notes that I had 'butterflies of discomfort' in my stomach as I watched Nevaeh move towards Mr Armstrong. I did not think that there was any risk of her coming to physical harm, however, I was aware that this situation might be used as an opportunity to reinforce the rules by making an example of a child that had broken them, seemingly in the belief that fear, lack of understanding and public shaming were effective mechanisms for compliance. The instruction to comply with subservience ('come here'), threats of further punishment ('Do you want me to ring your mum?' and 'you

will have to come and sit in my office with me all day',) plus the threat of constant surveillance ('I will be checking where Nevaeh's peg is tomorrow') all seem counterintuitive to what we know about how children develop, understand and control their emotional regulation. It lets us see a practical illustration of what Stern (2010:6) described as 'the dynamics of the very small events', adding up to very big things. Moreover, although this will not have felt like a very small event for Nevaeh at the time, its type (or similar) was a regular occurrence, normalised and absorbed into the everyday fabric of life in the classroom.

Nevaeh was finally sent back to the carpet to join her peers. The collective shared vitality appeared to peak during the interaction between Mr Armstrong and Nevaeh and dissipated as he left the room. The children who were kneeling sat back down, and there was a general sense of relief. I watched Nevaeh find a space on the carpet, interested to see if she had reached some sort of relieved resolution. I saw her glance at the behaviour chart as she passed it, noting that her peg was still on the very sad cloud. Then as she sat down, in one final physical act of separation, the children she sat beside physically moved away, making a clear statement to everyone that they were not 'naughty' like Nevaeh. As this event has illuminated, something as mundane as a clothes peg can have such material force. Nevertheless, this shows us that as researchers and practitioners, we cannot underestimate the importance or impact of 'thing-power' (Bennett, 2010).

Drawing upon the writings of other theorists, I am able to employ a diffractive approach that helps me to shift the prevailing perspective of my field notes. This allows me to provide deeper, multi-layered insights into Stern's (2010) concept of vitality and its profound influence on the affective attunement of the inhabitants of this Reception classroom. Using the work of Foucault (1975) I can see how some individuals and objects are enabled to hold material authority, resulting in power imbalances that directly impact opportunities for the emergence of vital energy and also how it is then expressed. Foucault's (1975) writing powerfully underscored how disciplinary practices, such as the use of behaviour charts, have become normalised as effective methods of controlling children not just in this school, but in the wider education system. Children are rewarded or punished for conforming with or deviating from the system. Further I have used Bennett's (2010) notion of 'thing power'

to show the impact objects like the wooden peg and the laminated behaviour chart can have in influencing how children choose to modify their behaviour, and impact on their emotional responses.

The following section will transition from the close diffractive analysis of the vignette to an exploration of the underlying themes that have emerged.

The Care-ful Practitioners in a Culture of Policy

It is important to note that the practitioners who agreed to participate in my research project showed through our many discussions over the months that the project lasted that they were thoughtful and reflective about the well-being of the children in their care. I observed many occasions of caring and sensitive interactions between children and adults. MacLure et al. (2011:466) suggest that 'the disclosure of normal development continues to discipline notions of appropriate behaviour, obliging early years practitioners to calibrate children in terms of their approximation to the normal child'. Introducing policy-driven assessments like the Early Learning Goals has made it harder to adopt what MacLure et al. (2011) refer to as a 'wait and see' approach, with children failing to conform to the prescribed 'normal'. The pressure experienced by practitioners to meet the goals that have been inflicted upon them enters into the assemblage of the classroom, adding to the intensity of feeling and influencing how the practitioners engage with and respond to the vitality of the space. Boldt (2020:3) is clear that the energy that makes up the vital flows of the classroom is not only based on what is happening in the moment but 'with the histories, cultures, and embodied worlds that all members of the class bring with them', and that includes the practitioners.

Discussion

I have shown here how a system that has been introduced to promote compliance hinders opportunities for children to engage in transformative learning experiences. Moreover, I have demonstrated the need for the system itself, which is fundamentally flawed on many levels, is only generated because of the policy-driven culture of outcome-based judgements.

I have shown how this pedagogy shapes adults' expectations about what constitutes 'good' behaviour in the Reception classroom and therefore shapes their interactions with children.

I have argued that practitioners do not respond to the signals that the children are giving to them, even when the children are in distress, but to the requirements of the education system. This form of external control constantly undermines children's sense of autonomy and agency and restricts them from fully engaging with their authentic selves, due to the pressure to comply. If we were able to move away from these systems of control and practitioners were given the knowledge and opportunity to use a different lens through which to view children's vital behaviour and intra-actions with the spaces they inhabit, then they could create environments and value experiences that would articulate a more empathetic pedagogy, promote meaningful interactions and prioritise the co-construction of knowledge.

Changing the gaze has enabled me to see the presence of a vital flow of energy that builds and peaks with force and intensity, carrying with it behaviours, emotions and interactions before fading, always with the potential to begin again. As this vitality builds, affective attunement occurs across various modalities, with children and adults tuning into and matching emotional states and intensities, creating one shared affective experience. Using vitality as a concept through which the dynamics of the Reception classroom can be interpreted allows us to see how emotions, energies and experiences are shared between children and enriches our understanding of how children engage with each other, synchronising their emotional rhythms within the fabric of their space. Stern's (2010) work provides us with concepts to reinterpret what we see when we observe children. It allows us to notice waves of affective thinking and doing, attunement between all the actants within a space, and also the power dynamics that come into play in a classroom environment.

Summary

In my exploration of Nevaeh's experience with the behaviour chart, the entangled relationships among space, objects, and the child emerge as a significant event. I was able to discern the agential capacities of seemingly inconspicuous objects, like the peg,

transcending their individuality. This recognition of relationalities and emergent qualities underscores the nuanced ways in which the smallest elements contribute to the dynamic landscape of a child's learning journey.

A small, seemingly innocuous, wooden peg emerges as a powerful object within the classroom. It takes on roles beyond its tangible nature, becoming a conduit of disciplinary power and a tangible mediator of the children's adherence to spoken and unspoken behaviour rules. The act of moving the peg becomes an expressive entity, embodying each child's affective state. These states vary between joy, pride and elation to sadness and anxiety, depending on where the peg is moved to. This object coalesces with other elements, such as images of the sun and a very sad cloud, to shape a complex and intricate web of power relations, affective responses, and individual agency. The behaviour chart and pegs, strategically visible to all children, serve as a form of surveillance within the material apparatus. The movement of any peg becomes a visible actant, echoing power dynamics within the space. The threat of consequences, such as the sad cloud and the teacher's control over the chart, further shape the affective atmosphere and power relations.

When Nevaeh was sent to the book corner, the relationalities between her embodied responses and the cushions that surround her became significant. They acted not only as physical support but also establish a boundary, marking a separation between Nevaeh and the rest of the space. In this removed and enclosed space, the material environment actively participated in shaping her affective responses of fear, anxiety and sadness. The entanglement of her body with the cushions, floor, and emotional expression of sobbing created a multi-dimensional assemblage where her patterning of vital energy through movement could clearly be seen in the way that she bounced rhythmically up and down when in a growing state of anxiety at the anticipation of the arrival of Mr Armstrong, then flinging herself down flat on the cushions when her emotional state appeared to reach its peak.

Nevaeh's language, both verbal and non-verbal, became a dynamic element in the complex interplay of power, resistance, and affect. Her forceful verbal denial and moments of silence or crying revealed an interplay of emotion, compliance, and resistance. The materiality of

her tears, the sound of her sobs, and her bodily movements contributed to the ongoing dynamic composition, disrupting the classroom atmosphere. Mrs James's language served as an expression of power. It enforced boundaries and shaped the dynamics of the space. The choice of words and tone that she uses reinforced the expectations to comply. This served to 'other' Nevaeh. Her inability to comply became salient to me. The language of other children, both verbal and non-verbal, became tonal echoes, reflecting the affective atmosphere and contributing to the growing sense of negativity and shift of atmosphere within the classroom.

There are three dominant spaces that featured in this vignette: the main carpet space, the book corner, and Mr Armstrong's office. Each actively participated in shaping the dynamics of the unfolding encounters. The carpet area acted as a space for gathering-enforcing rules, shaping the interconnectedness of the entangled ensemble. The book corner is a space designed by adults to be a designated area for children to go and read. In this vignette, it was designated (by the adult) as a space for Nevaeh to go because of her non-compliance. The space became a player as Nevaeh's embodied responses and emotional expressions interacted with the material environment, introducing moments of potentiality and disrupting the overall atmosphere of the Reception classroom. Examining the relationalities within this example reveals how the elements of space, object, and child contribute to the building and disruption of vital energy. Nevaeh's constant negative emotion became a focal point and the interruption or disruption of this negative flow through public naming by the teacher. It is the teacher's words that acted as a threat of consequences and emotional responses that form and shape the affective dimensions of the learning environment. This raises questions about the appropriateness and suitability of behaviour management systems such as the one that we see in use here.

'Vital' Conclusions

This chapter explores the phenomena of vital energy in children's events and intra-actions, drawing inspiration from the work of Stern (2010). By using vital energy as a means of observing patterning in children's interactions with their learning environments, a way of

seeing waves of energy that have the potential to lead to moments of enchantment and transformation is shown.

There is strong evidence in the chosen examples of the importance of the agency of materials within classroom events and how children's uninhibited intra-action with materials and space maximises their potential for total absorption in a world of their creating. These vignettes also show how the adult's role is crucial in realising the potential of vitality in children's experiences.

It is proposed that neoliberal values in early childhood education, driven by policy objectives, constrain practitioners' understanding of children's agency and the authenticity of their worlding. Evidence is presented that the pressure to prioritise objective-driven outcomes reduces or stops opportunities for spontaneous learning and moments of enchantment.

Drawing on theorists Stern (2010), Bennett (2010) and Manning (2013) and thinking with a New Material Feminist lens, the manifestation of vital energy in waves that often result in transformative peaks can be seen. The perspective reframes thinking about material and object agency, highlighting their vibrant role in shaping dynamic learning. The findings point to the need for early childhood educators to be supported to recognise the liveliness of matter and the crucial role that it plays in children's wellbeing and learning potential.

Some of the inhibiting factors that exist within practitioners' perspectives can be seen occurring within the context of an outcome-driven education system. The application of a New Material Feminism perspective challenges that thinking, promoting an alternative paradigm that recognises the vital role that matter, time, and space play in children's development, whilst also challenging the emphasis that has been highlighted in the vignettes on the apparent desire by the adult for compliance over engagement.

It is suggested that a shift in viewing children's learning fosters a culture of co-construction of knowledge. Through the vignettes that have been featured in this chapter, the multifaceted and complex nature of the Reception classroom has become apparent. Here it appears that elements constantly influence each other, creating assemblages that lead to

dynamic and powerful events. The possibility of attunement to these intricate complexities reveals a process that could enrich children's learning through their enhancement of the potential of vital energy and meaningful engagements with the world.

A New Material Feminist perspective has helped reframe thinking about the agency of materials and objects, and the role that they play as 'vibrant' agents in children's play, taking an active role in shaping learning. The research has shown that if educators were able to recognise the potential and liveliness of matter, seeing materials as active contributors to dynamic learning, they would be able to provide richer, more holistic and effective environments for children to thrive in.

This research was carried out in a broader outcome-driven education system, where a focus on policy-driven results constrained the potential for practitioners to create truly transformative learning experiences. New Material Feminism challenges this thinking and enables practitioners to attune to an alternative paradigm that recognises the vital role of matter, time and space for children and that challenges much of the current perception about the importance of compliance over engagement. This shift in how we view children's learning would result in a culture of empathetic co-construction of knowledge.

In the next chapter the fieldnotes and research will show what possibilities emerge when children's vital energy begins, grows and dissipates uninterrupted by teachers.

Chapter Five – What More Comes into View?

In this chapter, I will build on the concepts that I introduced in Chapter Four by presenting a contrast in the outcome of vital engagement. I have chosen examples where the vital energy is allowed to unfold, grow, peak, and dissipate without the adult intervention or interruption that we saw in Chapter Four.

In the following three vignettes, I highlight the transformative impact that can happen for children in their affective encounters when what Stern (2010) would describe as 'vital affects' are free to run their course, granting the children autonomy and ownership over their experiences. I have chosen three vignettes to support me in articulating my thinking and the findings of my research, challenging the neoliberal policy-based, outcome-driven notion of 'learning through play', instead advocating for an understanding that children are not separate or isolated from their environment, but are constantly engaged in a dynamic, interrelated process, where their vital energy and the world around them coalesce in transformative ways. These 'vitality dynamics' (Massumi, 2002:7) demonstrate the inherent liveliness and agency present in children's play through closely observed intra-actions between children and objects, underpinned by a New Material Feminist perspective, to challenge the notion that children are the sole agents of their play. This perspective prompts us to look into the relationalities between space, objects and child, and examine how they interconnect and enable the amassing of vital energy during their play.
The following vignette took place in Oakfield Primary following the morning registration period and a whole class phonics session.

Building a Tower

Introduction

I have chosen this account from my field notes as it is an excellent example of the affects created when children and objects 'slip slide into each other' (Bennett, 2010:4) and the more-than-human outcomes that result from those intra-actions. I will also revisit Bennett's (2010) notion of 'thing power' as a means of articulating how we can bridge the gap

between human and non-human entities, and how as practitioners we should expect to find the unexpected when observing children's interactions with objects. I show that when we can accept a blurring of the boundaries between human and non-human, we give ourselves access to endless possibilities. I also use this vignette to further expand my thinking around affect and materiality using the writing of Lenz Taguchi (2010) to articulate the ways in which emotions become embodied responses, encapsulated in children's play. Building on that concept, the work of Hackett and Procter (2017) scaffolds my writing about the interplay that I observed between the two children featured in the piece (Olivia and Finlay) and the strong connections that exist between children, object, and space, exerting reciprocal influence upon each other.

Once again Stern (2010) is an essential element of this analysis, enabling me to articulate a clear example of how vital energy builds when children have the opportunity to experience feelings like wonder, curiosity, joy, disappointment and despair. We can see that when the children have the freedom to experience these feelings, they have a strong desire to explore and intra-act (Barad, 2007) with the environment. The strength of those feelings also enables them to become entangled in affective relationships with the material world around them, and we see the environment becoming an active participant in their learning. I will show how, in stark contrast to neoliberal, policy-driven approaches to education, when children are not restricted to standardised activities that prioritise measurable results that are put in place to achieve predefined benchmarks, we see high levels of wellbeing, engagement and moments of learning that transform the ordinary.

'Oh, Dear! You can Always Build it Again'.

As the carpet session ends, I am drawn to watching a girl (Olivia) and a boy (Finlay) who stand up and hold hands without looking at or speaking to each other. Although he raises his hand first, hers is already waiting to take it. They do not pause or look around the space but walk to the block play area with what seems like intent. Once they reach the space, they let go of each other's hands and begin to take hollow blocks off the shelf where they are stacked.

The space designated to house the blocks feels small, given the size of the blocks the children have to play with. On the floor, there is a wooden pallet which takes up most of the available space and a small wooden apple crate, which has been turned on its side to be used as a display 'table'. On the top of the crate is a plastic picture frame containing a written prompt that reads, 'Can you make a tower with 8+2 blocks?'

Two walls have demarcated the area, and then a shelving unit. The flooring is a wood-effect laminate with a small rug under the pallet. Most of the flooring around the pallet is already covered in blocks that have been abandoned by previous visitors. Children have also brought other resources into the space as part of their play. I can see a dinosaur, a few toy cars, three plastic plates and a selection of plastic play food.
The block play space is in the corner of the room, away from the main play space, but still visible from the carpet area.

As I watch the Finlay and Olivia, they rearrange the space, moving the apple crate so that it sits next to the pallet. Finlay stands on the pallet, jumps off and then steps back up. He does this three times in quick succession while Olivia stands and watches him. She does not join him on the pallet, nor does she speak. After the third time that Finlay had stepped up onto the pallet, he nods at Olivia, and she begins to collect the wooden blocks from the floor and the shelf and place them around the edge of the pallet. She does this quickly, perhaps concerned that Finlay will run out of blocks to stack. As she is doing this, Finlay begins to pick them up and stack them on top of the apple crate. It feels like he has done this many times before. He stacks them quickly and rhythmically but makes sure that the blocks are butted up tightly against each other and that as he stacks each new block, its bottom is precisely in line with the top of the block below. Finlay pauses and holds some of the blocks against his cheek as he picks them up. As he holds the block against his cheek, he closes his eyes, maybe only for a few seconds. He is entirely still. Then he places the block on the stack and carries on.
When Olivia has collected the available blocks, she does not join Finlay in the building but stands completely still and watches him. At no point do the two children speak or make eye contact, yet they seemed utterly aware of the actions of the other.

Finlay's tower grows quickly due to the shape of the blocks and the fact that he is stacking them on their ends. The tower soon becomes too tall for him to reach the top. At this point, he leaves the block area and returns with a chair. He positions the chair carefully so the legs cannot slip through the slats on the pallet. Once in position, he carries on stacking. This means climbing down from the chair every time he wants another block and then climbing back up.

Olivia does not assist him in this task but maintains her still position and watches.

As the tower became taller, Finlay cannot be as precise in placing his blocks, he has to stretch to place them, even standing on tiptoes on the chair to try to edge on one more block. The structure has become significantly more unstable and is beginning to move and wobble as Finlay (still on tiptoes) uses his fingertips to push a block into place. The tower's movement seems to be echoed by Olivia, who has gone from being entirely still to beginning to push herself up on her toes and then lower her body while simultaneously clenching and relaxing her hands.

As the tower begins to lean to one side, Finlay stops his build and stands completely still on his chair. His only movement is to bring both hands (one on top of the other) across his open mouth.

Olivia now remains on tiptoes with her hands clenched into tight fists. I can see her top teeth as she is biting down on her lip, her eyes are visibly wider.

These children are anticipating what is about to happen. This has been the purpose of their work.

As a human in space, I experience what feels like a slowing of time. I find myself transfixed by the top of this tower which is clearly about to topple. As the bricks hit the wooden floor, there is a large clattering sound. At that moment, Finlay and Olivia look towards each other

and laugh. Still standing on the chair, Finlay grabs and squeezes his groin, and Olivia falls on the floor, still laughing.

Somewhere behind us, a boy cheers at the sound of the clatter. This is followed by others who also cheer and clap. At the same time, their teacher shouts over, 'Oh dear, you can always build it again.' Finlay and Olivia do not build it again. They leave the blocks exactly where they fell. Finlay climbs down from the chair as Olivia stands up. He reaches for her hand, and they run through the classroom and out of the door to the outdoor play space looking at each other and laughing hard. Neither of them has spoken during the entire time I have observed them. As I watch them through the classroom window, I am aware that the block area is now alive with children (all boys) gathering up the blocks at speed while laughing and discussing how they will 'build a massive tower and kick it down'.

Untidy Spaces

Tidy-up time has been a recurring feature in the Reception classrooms I have worked in, with importance being placed on children taking responsibility for the resources they use and understanding that resources and objects need to be easily accessible and discoverable, therefore, they need a designated place to reside in and be returned to. Children will spend a significant portion of their day 'being tidy'. In both schools I worked with for my field study, there was designated tidy-up music that played on repeat until the whole space had returned to its ordered state. This could take up to 15 minutes, with adults assuming the 'space inspector' role. If the space is never given room to evolve, breathe and grow, never getting the opportunity to remain on the cusp of mess, then the opportunity for intensities and emotions to emerge is vastly reduced.

Bennett's (2010) concept of 'thing power', refers to the ability of material objects to exist beyond their human categorisation, coming together with human actants (children) and producing unpredictable consequences. It is interesting to note that in this example, the children sought out untidy spaces or make it their mission to deconstruct them as a precursor to their play, releasing the potential of the thing power.

When the carpet session ends, the children felt a sense of release. Rather than conforming to the adult's direction, they were given a choice to find a place to inhabit. This was not a completely free choice, as the space they were moving into had been set up and curated by adults. As is a recurring theme in these chapters, many opportunities offered as potential spaces to 'play' were linked to adult-generated learning outcomes. In the block area chosen by Finlay and Olivia, there was a learning prompt, 'Can you make a tower with 8+2 blocks?' It seems that practitioners regularly offer objects to children in the hope that they will directly impact learning. Their purpose is seen as singular, solely linked to learning outcomes. Hargraves (2019:187) writes:

> *The non-human in these early years settings is deployed only to develop increased accuracy in children's attribution of meaning to signs and symbols as an early literacy skill.*

MacRae (2012) also writes about the long educational tradition where objects are harnessed with their ability to instruct, with the object rendered docile in the service of 'learning' from it' (MacRae 2012:123) But what I have seen time and time again in my research is that the children are the disrupters, subversive in their interactions with the matter that surrounds them and often disregarding, if even aware of, the task that has been assigned to the object or objects by the adult. Whilst this is the case, these actions are often disregarded, overlooked, corrected, or treated as glitches in the model of classroom 'best practice'. (Hackett, 2021)

Becoming Attuned

As Finlay and Olivia stood to leave the carpet, they made an immediate physical connection. What struck me about it was that it was not discussed or negotiated. The children did not even make eye contact. The movement felt familiar and rehearsed, which was always or often done. For both of them, this appeared to be the very beginning of the building of the vital energy that took them into their play and enabled them to access the more-than-human. The physical sensation of touch created a visceral response in each of them. As they did not discuss where they would go and what they would do, their sense of purpose and

likely anticipation of what was to follow also began to build that vital energy. As soon as they reached their destination, their task began. This was not done by chance or instruction; it was done with knowledge and purpose. Their roles were clearly defined, and a predetermined end goal existed.

Although Olivia's collecting of the blocks was not frantic, it was done at pace, and this rapid movement around and across the small space created a sense of urgency in the action that was taking place. Her rapid movement was punctuated by the almost rhythmical stacking of the bricks. Finlay's movement followed a regular pattern of bend, lift, place and adjust. The placing of the bricks created a gentle tap that marked out the beat of the 'work' that was taking place, alerting Olivia to the fact that another brick has gone down, so more would be needed, but also helping to build the sense of moving forward, of something in progress, a building of vital energy a 'feel of flow and aliveness' (Stern, 2010:23).

Vitality seemed to rise, not as a constantly building force, but as energy that ebbs and flows, builds, and slows, peaks and troughs before eventually reaching a climax and dissipating. Stern's (1971) focus on infant research enabled him to observe the affect on the body that does not require language, shared consciousness, or reflection, something that moves from the noticeable to the unnoticed as children get older and verbal language takes over. Stern (1971) highlighted that concept in his exploration of dynamic vitality forms that originated from observations of mother-infant interactions. In these exchanges, the dynamic aspects of communication stand out because there is minimal linguistic activity to divert attention from the non-verbal elements. I would argue that we see this type of interaction in action between Olivia and Finlay, they were attuned and responsive below the levels of consciousness. What Stern (2010:110) referred to as 'the forms of dynamic flow that carry social behaviours'.

As the tower became taller and Olivia collected all the bricks, the vital pace slowed for both children. Olivia became passive and assumed a position of still observation. In contrast, Finlay's movement became more cautious and precise as it was by then restricted by the tower's height and his inability to make himself taller. However, even though the movement slowed, there was a palpable feeling of anticipation that something was going to 'happen'.

This could be because of the physical stillness of Olivia bearing a stark and marked contrast to her previous behaviour or the fact that Finlay was wobbling on his tiptoes on top of a chair precariously placed on a slatted pallet next to a very tall tower that could have fallen at any moment.

Bennett (2001:111) describes enchantment as '…a mixed bodily state of joy and disturbance, a transitory sensuous condition dense and intense enough to stop you in your tracks and toss you onto new terrain and to move you from the actual world to its virtual possibilities.' This is different from what Stern (2010) describes as vitality, but there is synergy between the two states, and my research shows that they can coexist within the affective intra-actions children have in their play. Vitality is an energy that mobilises affect; enchantment can create a mood and a moment. A mood of enchantment can occur due to an event or happening that causes a change in the current mood to take shape unexpectedly. This event may not cause all participants to stop in their tracks and ultimately lose their sense of consciousness of the world around them, however, it may lift them up and place them on a different path.

When the tower Finlay and Olivia built finally falls, the crash it made as it hits the floor was an unexpected auditory punctuation to the rhythm of the classroom. For children who were concentrating and engaged in other tasks, it may have frightened them, releasing adrenaline into their bodies, and resulting in physical response. Others (including the adult) knew exactly what this sound was; as a result, it would bring a whole host of other significant meanings and emotions to their consciousness. The crash of the tower changed the trajectory of the session. The fact that it elicited cheering and clapping from some children shows through their physical response that they were interrupted, and that interruption brought the possibility of something new, something different.

As I watched them through the classroom window, I was aware that the block area was now alive with children (all boys) gathering up the blocks at speed while laughing and discussing how they would 'build a massive tower and kick it down'.

A 'Tidy' Approach to Play

As I have already indicated, tidiness and tidy-up time are a significant part of the daily routine in a Reception classroom. However, a preoccupation with the space being 'tidy' as a sign of its effectiveness limits the possibilities of the emergence of vital energies. I have shown using Bennett's (2010) concept of thing power that materials can produce unpredictable outcomes, depending on who is interacting with them. Throughout my field notes, I can see that children seek out 'untidy' spaces or will untidy an ordered space which seemingly releases the potential of objects beyond the purpose that was given to them by the adult who placed them within the space. It was in the spontaneous interaction between the children and the bricks that we had vitality and connection. This is further highlighted by the fact that the children did not speak. As an observer, there was no distraction. The lack of spoken language allowed focus on movement, the physical manifestation of vitality and the emotional content of action.

Entanglements

Some boys chose to leave what they were doing and engage in building the tower again to recreate the feelings that they had experienced at that moment, allowing them to engage with the 'nonlinear events and dissipating structures', (Bennett, 2010:105) causing them to realign with the world, carried on, or at the beginning of, a wave of vital energy. It was part of the mood of enchantment that took its shape in the material-social relations, urging the boys on together, interacting with each other, matter, and place. Moments of enchantment seem to emerge fleetingly in the events described next.

> *Finlay pauses and holds some of the blocks against his cheek as he picks them up. As he holds the block against his cheek, he closes his eyes, maybe only for a few seconds. He is entirely still. Then he places the block on the stack and carries on.*

Finlay had been stacking the blocks with pace and intent, so when he paused and held the blocks to his face, that behaviour stood out. He only did it with three of the blocks before shifting his focus and concentration to getting them to balance, but as he pressed the blocks

against his cheek, his eyes closed. He came to a complete stop. Through his actions, Finlay was getting to know the block's material qualities, the smoothness of its surface, and the weight of it in his hand. He also experienced the blocks through his senses while actively manipulating them, moving them through space, and placing them against his face. As the blocks rested against his cheek, they were momentarily caught up with each other, a state of enchantment connecting what was happening right then to things that have happened before. This connection was so powerful that it stopped Finlay in his tracks. This moment of enchantment was an affect, feeding into the vital energy that Finlay was caught up in, causing it to build quietly. Similarly, as the tower was about to fall, we saw both children experience moments of enchantment.

> *As the tower began to lean to one side, Finlay stopped his build and stood completely still on his chair. His only movement was to bring both hands (one on top of the other) across his open mouth.*
>
> *Olivia now remained on tiptoes with her hands clenched into tight fists. I could see her top teeth as she bit down on her lip, and her eyes were visibly wider.*
>
> *These children were anticipating what was about to happen. This had been the purpose of their work.*

Through Finlay's physical action of clasping his hands over his mouth, we can see the intensities of the feelings and emotions that he was experiencing emerge. His emotions were entangled in the materiality of his body, showing how we position emotions as a means of understanding the significance of intra-action with place and things (Lenz Taguchi, 2010).

Hackett and Procter (2017) discuss the play between children, objects and places as productive of both intensities and emotional responses. Whilst within a sociocultural perspective of play children can be understood to author play experiences that process and produce identities and emotions, a new materialist reading of play understands intensities and emotions as arising through intra-actions between human and non-human players

(Hackett and Procter, 2017). Bennett (2010) suggests that a mood of enchantment involves being momentarily 'transfixed, spellbound' caught up by 'exhilaration or acute, sensory activity' (p.5), and this is what we saw in Finlay. Similarly, Olivia seemed to begin to embody her flow of vitality physically.

> *Olivia went from being entirely still to beginning to push herself up on her toes and then lowering her body while clenching and relaxing her hands.*

Just as Finlay was placing the blocks on his tower in a steady rhythm, Olivia was replicating that rhythmic movement, like a pulsation manifesting in both her feet and hands. Her whole body was a conduit for the energy flowing through the space. In anticipation of what was about to happen, Olivia froze on her tiptoes, her teeth biting down into her lip and her eyes wide open and fixed on the tower, appearing to be both charmed and disturbed in a state of enchantment.

Finlay and Olivia's moments of enchantment and the dissipation of their wave of vitality appeared to coincide. The crash of the tower hitting the floor symbolised a release of vital energy and breaks them out of their enchantment spell. Again, this surge of energy manifested itself in their physicality. Finlay and Olivia gave each other direct eye contact for the first time since they entered this play space. They also laughed hard together. Finlay grabs at his crotch, squeezing it with excitement, and Olivia fell to the floor, mirroring the toppling tower, connected to it through affect attunement in what Stern (2010:8) describes as 'the felt experience of force-in-movement with a temporal contour, and a sense of aliveness, of going somewhere… accelerating, exploding, and fading'.

The children did not remain in the space to play or build their tower again. Instead, they physically connected again by holding hands and moved to a different space, washed into it by the remaining force of their vital wave to rest or begin again.

Discussion

When trying to understand the role that objects play in Reception children's learning and literacies, my research has shown me that children find meaning in objects, spaces, and places alien to the adult/teacher concepts of 'learning' and 'knowledge'. The need for order or to assign meaning to an object or task only inhibits the potential for children to flourish in the worlds of their construction. When a space hovers on the cusp of mess (Pahl, 2002), great opportunities for engagement and intra-action appear to lie.

In this account, I have focused on the two children as central elements of this study. This was done as a means of attempting to make a judgement as to whether moods and/or states of enchantment could be identified in children's play. But of course, the human being is not the sole locus of agency, meaning can and does emerge as a result of mutually active relationships between human and non-human materials. As I have already stated, places and objects also have agency. Any meaning we can draw from what we observe must emerge from the complex relationships between human and non-human actants. The child must be decentred, and rather than the child acting on the world, matter will also act on the child, creating an intra-action rather than an inter-action (Barad, 2007). Murris (2016:91) describes this as a child being constructed 'as entanglement; constituted by concepts and material forces, where the social, the political, the biological… are interwoven and entwined – all elements intra-act and in the process 'lose' their boundaries.'

If we think again about Finlay and his moments of enchantment with the blocks that he was stacking while standing on a chair, we can challenge 'our habitual and anthropocentric ways of seeing' (Hultman and Lenz Taguchi, 2010:527). If we give the blocks, the chair and Finlay's body a more equal and active role in the encounter, we open up the potential to see further into the embodied worlds being created. In the way that I wrote my field notes, I positioned Finlay as the main protagonist of the play and the sole controller of his actions. However, what if the act of desiring, reaching for, touching, picking up the block and placing it against his cheek did not just belong to Finlay but was instead an assemblage of block, chair, and body? We can imagine that multi-directional forces were at play in a 'continuous exchange of back and forth' (Pacini-Ketchabaw et al., 2016:27). We can see Finlay as part of the space

as opposed to a child who, in playing 'with' the blocks 'in' the space, becomes part of the materials he is intra-acting with. The blocks invited Finlay to touch them, emanating desire, causing Finlay to want to possess them and hold them close to his body.

As he was repetitively stacking the blocks to build his tower, Finlay could have looked like a child who was learning or consolidating skills and knowledge through repetition in play, but Manning (2016:2) suggests that in each repeated movement, something qualitatively different occurs, meaning that there will always be 'improvisational threads of variability'. Massumi (2011:50) characterises these repetitions as 'thinking-feeling', noting that 'each repetition will be different to a degree because there will be microvariations that give it its singular experiential quality. Anderson and Harrison (2010) use the term 'thought in action' to describe this thinking process through movement.

Such thinking-feeling seems to produce meaning through actions that we can see, although it is difficult to categorise and name. If we return to Finlay and the blocks, we can see that he was carrying out the process of stacking that resulted in a tall structure, but with that level of simplicity, we miss the opportunity to speculate on his experience of vital energy that swept him up and pushed him forward. We would also miss his moments of enchantment that left him entirely still, transported to somewhere 'other'. We need to go beyond simply reacting to the flows of vital energy that exist at all times all over Reception classrooms. We need to cultivate ways that recognise how children are experiencing and communicating the energy of the multiple events' that they are engaging with across the day, recognising not only what is happening in the moment but also the potential that exists for those moments to combine and then recombine in unpredictable ways, affecting both the human and the more-than-human actants in the assemblages. Rather than place and objects merely playing a role in children's play, we see place and objects as playing back. Objects and places transform children and produce play (Jones, 2013; MacRae, 2012).

Affective Dimensions of Learning

Viewing this account through key concepts including new materialism, vitality and affect theory has enabled me to gain further insight into the importance of children's play and

challenge traditional perspectives of early childhood education, as well as my own. The relationship between children and their environment is a dynamic one. Bennett (2010) shows us the agency of objects and the crucial role they play in enabling children to make deep and transformational connections with the world around them. When that thinking is combined with Stern's (2010) exploration of vitality, it shows how children's movements, interactions and emotions are intertwined with the materiality of their play. Further diffracting this analysis through the prism of Anderson and Harrison's (2010) theory of thought in action and Barad's (2007) perspective on intra-action, I can show that play is an ongoing process of thought in action, which expresses itself in a wide variety of ways where meaning emerges from children's complex, embodied experiences of interconnectedness between self, object and space. Integrating this with Murris's (2016) notion of entanglement, I can begin to unpick the social and political nature of the interconnected assemblages that are created in a school environment, taking children's play in early childhood education beyond conventional paradigms.

Summary

In this account, the space, demarcated by furniture that had been placed by the teacher, became a crucial actant in shaping the possibilities and entanglements of the children's play. The designated block area influenced where children could and could not go. The children, Finlay and Olivia, navigated and used the pallet, crate, blocks, and chair. These objects, in turn, exerted their agency, guiding the children's embodied responses and contributing to the material richness of the play. The pallet became a dominating force within the space, dictating how the children could move and interact. The crate, initially assumed to serve a specific purpose by the teacher, became an overlooked yet significant element, holding the potential to inspire the children in sensory imaginative engagement.

The wooden blocks emerged as pivotal actants, not just in their physical form, but as conduits for creative expression, collaborative learning, and imaginative exploration. Finlay's skilled and familiar stacking of the blocks demonstrated a rhythmic cadence, suggesting a deep engagement with their material properties. The tactile exploration, such as holding a block against his cheek, underscored the sensory impact of the wood which he was attuned

to. The cold texture seemed to invite him to linger with the contact, and then repeat the action, exerting its 'thing power' (Bennett 2010). The chair, introduced purposefully into the assemblage by Finlay, disrupted the existing spatial dynamics. It became a new player in the agential gathering, becoming an embodied extension of Finlay, enabling him to engage in more complex forms of play and intra-action. The chair gave Finlay height, enabling him to extend his tower and enhancing his process of navigation between ground, pallet, and chair. There were other objects, brought into the space by previous children, that maintained a presence and had the potential to contribute to the dynamic assemblage, inviting children to intra-act with them and include them in their activities. Even though Finlay and Olivia did not directly use these objects, they had potential for sensory and imaginative engagement that might have prolonged their activity.

The lack of spoken language between Finlay and Olivia did not hinder their communication. The physical bond through holding hands made a visceral connection of flesh on flesh. Sound, such as the laughter and excitement of the children when the tower collapsed, created a disruption to the atmosphere of the space. As the tower fell, the sound of bricks hitting the floor was loud and unexpected. It marked a distinct moment, capturing the children's attention right across the classroom. The sound was a burst of vital energy, received by all the children in the classroom. It mobilised their attention to the place where Finlay and Olivia were standing. The teacher's spoken response then disrupted and dented that wave of excitement. The suggested instruction to 'build it again' reflected a perspective that failed to appreciate the children's work and investment that led to the creation and destruction of the tower. It was the collapse of the tower, rather than the teacher's intervention, that became the catalyst for a shift in vital energy. The scattered blocks represented the fluid and ever-changing dynamics of objects, children, and space within the narrative of play. They were relics of a moment of vitality, and ruins of a tower that might or might not be reassembled.

Relationalities within this account reveal how the interconnected elements of space, object, and child contributed to the building and disruption of vital energy. The designated space shaped the possibilities and constraints of play. It influenced the agency of the children within the event. The emergent worlding, marked by the fluid interplay of elements,

pointed to the transient and dynamic nature of children's experiences within the Reception classroom.

The following event occurred in St John's Primary. The children had been to a whole school assembly, followed by a whole class phonics session led by their teacher. The children then either went into free play or to work with an adult.

Paper Squares in the Sunshine

Introduction

In this vignette, I will revisit theories that are centred on vitality and enchantment. This time I apply them to a very intimate intra-action between a girl (Ava), some tissue paper squares and me. I also share my ability to 'time travel' and be transported to long-forgotten moments from my history. This is an element of my research that became a more frequent occurrence as this project progressed. It shows how I was being able to become more affected by my intra-actions with the spaces that I was inhabiting because I was beginning to see them differently. Building on Bennett's (2001) theory of moments of enchantment, I will explore how enchantment can also be perceived as a mood that can last for an extended period, illustrated in this example by how the child I am observing (Ava) explored the agency and vitality of some tissue paper squares.

I will show the transformative potential of the material world when children are given the space and the time to dwell within it and how these opportunities to embrace the more-than-human significantly impact the potential for children to learn and thrive. Ava and I do not use speech to communicate with each other throughout this encounter, yet so much is said. Having the time to watch and notice her bodily movements and expressive gestures allowed me to interpret her thoughts and engage with her in feelings of curiosity, wonder, enchantment and vitality (Stern 2010) as she established an intimate connection with the material world, seeing the vibrant agency and liveliness within tissue paper squares in the sunlight. Barad's (2007) writing enables me to articulate the co-constitution of the intra-actions that took place during this encounter across the entire assemblage of human and non-human actants. It supports me in showing that, through this interaction with Ava, when we give opportunities to children to become entangled with other human and non-human entities, the boundaries between them are blurred, resulting in intricate and powerful entanglements. Drawing inspiration from MacLure's (2012) work on communities of consent or dissent I have observed how Ava's actions during this observation both align and deviate from the agreed classroom norms. I will highlight how her understanding of these

expectations causes tension between what she appears to want to do and what she appears to feel like she should do.

Throughout my writing, I can draw parallels between the behaviours of the children that I see and some of the experiences Stern (2004) recounted about patients he worked with in his therapy sessions. He wrote about his desire to shift his practice 'to the deepening and enriching of experience' Stern (2004:222). He detailed how some of his patients felt when they came to therapy, describing them as feeling 'dead' due to a continued lack of acknowledgement for expressing their feelings of vitality. He described them as feeling unseen and unacknowledged, leading them to feel they did not matter.

Pools of Sunlight

St. John's Primary is an old Victorian building. Every time I come here, it reminds me of the small village Junior School I attended as a child, so my visits here are often peppered with long-forgotten memories prompted by the environment. Today it is sunny, and the sun is streaming through the windows, creating patches of light and warmth on the old, worn wooden floor. During my visits, I usually sit on the floor and today, I am thinking about warming myself in a patch of sunlight and wondering if the children do the same.

Unfortunately, their designated gathering space is on the other side of the room, in shadow where the sunbeams do not quite reach.

The windows are high, so the children cannot see out of them. They still have the original frames and old rope pullies on them to open the smaller windows at the top. Today I find myself thinking about how we were rewarded back in 1979 by being given the responsibility of being the 'window monitor' and having the 'honour' of being allowed to open and close the windows using the rope. Revisiting that memory gives me the irresistible urge to pull the window rope again. So, I do, feeling a huge wave of nostalgia but also guilt at not having sought or been given permission first.

Below one of the windows is a long, thin, low table that has been set up and labelled as a 'Craft Area'. Three plastic drawers have been pulled out of a wooden unit and filled with pre-cut pieces of tissue paper for collaging with. There are also tubs of PVA glue and brushes on the table. Blank paper is piled up on a chair at the end of the table. It strikes me, when I look at it, that there is insufficient space to fit the paper onto the table alongside the collage material and the glue. I am interested to see how the children negotiate the space, if they do at all.

When the free choice session starts, children move around the room to find something that interests them. I can see that they are struggling to negotiate the space around the table and the objects on it. The tray that is full of tissue paper squares is knocked off three times in quick succession. The teacher (Mrs James) comments each time with phrases like 'Oh, dear! How did that happen? Pick them up, please,' 'Not again? You need to watch where you are going' and 'Can somebody move that tray, please?', which no one does.

I observed the child who knocked the tray to the floor for the third time. Mrs James held her on the carpet to read a section of her home reading book before she joined the others in play. When she had finished her task, she set off across the carpet at pace towards the back of the room in what I can only describe as a 'slow running skip'. Mrs James looked up and said: 'Walking feet, Ava', and Ava then slowed into a fast walk. She was looking beyond the collage area towards where the sand tray was situated. From her position on the carpet reading with the adult, she could not see what was happening in the sand area as it was behind a tall shelving unit, hidden from view. Her desire to play there was driven by preference and previous experience rather than any play that was currently taking place or specific children who were inhabiting the space. The collage area was a 'passing through' space on the way to a sand tray. The route could only be accessed by squeezing past the table. Other children had dislodged the tray but carried on, leaving it (and its contents) on the floor, which a Support Assistant eventually picked up. But, when Ava knocks off the tray, she bends down to pick up the many pieces scattered across the floor.

Initially, she bends her legs at the knees and sits back on her heels, picking the paper up in rough, grabbed, rushed handfuls. A few pieces of the paper stuck to her hand, and she had

to shake it vigorously to dislodge them. She pauses with the second fistful of paper before dropping it into the tray, squeezing and releasing her hand two or three times. I notice that she cocks her head ever so slightly, turning her ear towards her hand, listening to the noise that the paper is making, and then at a point that is meaningful to her, rereleasing it, only this time much slower. Some of the paper she releases escapes from her fist misses the tray and floats gently back to the floor. I watch her eyes track its movement until it finally comes to rest. Then she bends forward, pauses and blows, softly at first, then much harder. Again, I watch her track the paper as it moves across the floor in response to her breath. Because of her body position, she is unseen by everyone apart from me.

Some of the paper lands in one of the pools of light created by the sunshine through the windows. This appears to grab her interest. She pauses momentarily, just gazing at the tissue paper in the sunshine. She is completely caught up in the moment, seemingly oblivious to the noise and movement that is going on around her.

Ava adjusts her body position to sit on the floor. She has bits of paper underneath and in front of her. Her movements are now much slower and more deliberate. She carefully picks up pieces of paper with her thumb and forefinger and lays them on her flat palm. She blows on them in an effort to move them into the light. The light patch is too far away, and the paper moves in unpredictable directions. Rather than edit her behaviour in response to what is happening, she continues with the same method of blowing and uttering almost inaudible sighs and groans of disappointment when the pieces fail to reach their intended destination. When a small square of pink tissue paper takes its place in one of the light pools, she exclaims, in a triumphant whisper, one word – 'Yes!' Ava remains in this state of exploration for some time. I find myself willing the paper to land in the sunlight and share her sense of disappointment when it does not. I, too, am becoming invested in this play, almost against my will.

After a while, she notices me watching. Even though I have been sitting close by all this time, it has been as if I have been invisible, and she has seen me for the first time.

Her noticing manifests in an exchange of looks between us. There is no other recognition or gesture. She looks away, brings herself back up to her original crouched position, and picks up the paper again. I assume she has seen an adult watching her and is now conforming to the behaviour she feels the adult wants to see that was so clearly expressed by her teacher. However, Ava does not put the paper back in the tray, rather she picks it up by the fistful before she begins to select individual pieces. She is, again, picking them up with her thumb and forefinger and laying them on the palm of her hand. The choice of paper and colour looks considered and deliberate she picks out mostly pink, purple, red and white.
She then carries the paper squares towards me in her flat hand, securing them with the index finger of her other hand. I think she is going to pass them to me, but instead, she takes them one at a time and carefully places them on the top of my head. There is no pressure in her touch, she lays each square down very gently.

Because she is standing beside me and I am still sitting down, there is not even an exchange of looks. Nothing is said, no gesture is made until she has decided that the last piece is in place. She then leaves the area and goes to play in the Home Corner. She does not speak, look back or return to the space while I am still there.

Mood of Enchantment

If we think about enchantment as a mood as well as a moment, a mood that can quite unexpectedly come upon you, unfolding in the moment, then this account from my field notes begins with me experiencing precisely that. A chance encounter with the old rope pulleys on the windows of this Reception classroom transported me straight back to my school days; an affective encounter that prompted emotional responses from within me that were unexpected and, because of that, more than disturbing. As Burnett (2017:5) suggests, enchantment gives us a way of becoming engaged and immersed in 'the non-linear events and dissipating structures' that cause us to re-align ourselves with our world, our sense of preoccupation having become intensified, in my case with the window and the rope, which takes us to somewhere other than expected.

Acknowledging my own enchantment allows me to weave that felt experience into my diffractive analysis, adding a layer of interpretation as well as a depth of understanding that would not have previously been there. Coming across this window-opening device stopped me in my tracks. My desire to touch the rope was so powerful that I could not ignore it, and in doing so, I was reacquainted with feelings of guilt (and exhilaration) at acting without permission; feelings that had lain dormant for the past 44 years, jettisoning me to a parallel plane as a result of affect-in-the-moment.

To have this affective experience at the beginning of a school visit undoubtedly affected my mood and thinking. I was experiencing a sense of focus around my feelings, but there was discomfort in revisiting unexpected memories and feelings, and the prospect of the other that could follow. Perhaps this experience made me notice different things on that visit and view everything I saw differently. I was looking at the situation through the unique lens that I always bring as a researcher and re-experiencing some of the emotions of 8-year-old Alistair. Not only in relation to the window and the rope but everything I felt about being a child at my old primary school, in a particular classroom with a specific teacher. Feelings being triggered and experienced at speed, like dominoes toppling into each other, but at an incredible pace, an acknowledgement of the capacity of the non-human world to affect me. This growing understanding of the effect of the more-than-human is allowing me to access alternative ways of conceptualising learning and environments, confirming that when allowed to play, children (and adults) are open to the possibility of the unexpected, where that disruption can provoke new ways of being and learning. Such is the capacity of the material and non-material world to affect the human's sense of being.

The crash of the plastic tray hitting the floor refocused my thinking on the present moment. Looking at the size of the table, the size of the tray and its position, it seems that what occurred was inevitable. The space was small and difficult to navigate due to the size of the table. The trays were large and hanging off the edge. I watched some children actively choose not to move through or around this space because it was just too difficult to do. However, for some, an aspect of the space and its contents is calling them, appealing to their curiosity, or maybe just appeasing their boredom.

It has been useful to engage with several key concepts rooted in New Material Feminism and use them to apply a diffractive approach to my observations. Using concepts like enchantment, affect, materiality and curiosity, I have been able to reflect on the emotional aspects of my material encounter and gain a more nuanced understanding of its multiple perspectives.

Finding a Space to 'Be'

When the tray is displaced for the third time, the girl (Ava) who knocked it with her leg bent down and began to pick up the pieces of tissue paper of her own volition. She looked towards where Mrs James was sitting as she began her task, as if expecting some sort of comment, instruction, or request. Nothing came, but she carried on. Initially, there was a sense of frustration in how she grabbed the paper, scrunching it up in her fist before dropping it back into the tray. The paper was making a crunching noise in her hand as her fingers closed around it, and she released them to return the paper to the tray. I watched her pause and cock her head slightly to the side so her ear was nearer to her hand. She repeatedly squeezed and released her grip, listening. At first, her eyes narrowed as if she was thinking, then the corners of her mouth turned up in a very slight smile before she opened her hand to release the squares. When she released her grip, it was not with the same aggressive movement that she used to collect the paper squares in the first place. This time, her movement was much slower. She lifted each finger, starting with her littlest one, one at a time, finally releasing her thumb. Some pieces of paper fell into the tray, now creased and scrunched. Some stuck to the moistness of her palm, which resulted from the growing warmth in the space due to the intensity of the sun's heat pouring through the windows. She had to shake her hand vigorously to dislodge the delicate sheets. I noticed that, even though the paper was only stuck to one hand, she shook both with equal ferocity. As they fell away, some missed the tray and the table and floated to the floor. Ava's hands became still as she watched the paper's slow descent. As the paper touched the floor, she shook her hands again to dislodge more.

It was never seemingly Ava's intention to inhabit this space other than as a means of getting somewhere else. She was not affectively engaged with the table, tray, or paper until the

random act of knocking the tray to the floor. This action resulted in both physical touch and auditory stimulation and was impactful enough to stop her in her tracks. At that moment, she ceased to be a single coherent subject, becoming linked to the space in a joint dynamic experience. This was an example of an intra-action that not only showed the capacity of the non-human world to provoke the human body but acted as a hard stop of her vital flow of energy, her 'vital play'.

From my position in the room, I could see her begin to move off the carpet with all the other children to find a place to play but she was called back by Mrs James to carry out the more 'academic' task of reading. I am struck by the juxtaposition of the two different development trajectories that were battling for dominance here; one led by the child who found freedom and engagement through play and intra-action and the other by the adult who saw the child on a more linear learning journey towards the achievement of knowledge-based outcomes. Ava's vital play flow appeared to be building as the adult told the children it was time to go and 'find a job to do'. Her whole physicality changed on the carpet. She sat up very straight and folded her arms across her body in the agreed 'good sitting' position, displaying the compliant behaviour that would enable her to be 'chosen'. As Mrs James surveyed the children, intending to choose which children should get to go and play first, Ava further extended her body, gently pushing her chest up and down in an attempt to be noticed. Much like Nevaeh in the previous chapter, she looked like she was pumping herself up with what Stern (2010:8) describes as 'the felt experience of force… a sense of aliveness, going somewhere'. This was the beginning of an episode of a vital play. Stern (2010) explains this further by saying that the non-verbal and the more-than-verbal play a pivotal role in animating a given space and time. We see this with Ava's human exchanges jumping out in high relief because there is little going on linguistically to distract focus from the non-verbal. This means that as adults working with children in early childhood education, if we were more attuned to the pre-personal and the affecting of the body, we would see and appreciate many of the vital moments that happen multiple times within a child's day and go unrecognised, unnoticed or misrepresented as poor behaviour.

Vital Energy

When Mrs James said 'Ava', she almost sprang to her feet in one singular upward motion, like a coiled spring, looking towards the shelves that masked the sand area with intent. Her name was quickly followed by the phrase '*come and read with me'*. Ava looked at Mrs James and then back to the shelves before standing beside the adult. All the time that Ava was reading, she moved from foot to foot to the point where Mrs James asked her to 'try and stand still'. It was as if the energy from the wave of vitality that had begun on the carpet was still pulsing inside her, waiting for an opportunity to be released. Re-reading this account of my field notes, knowing what I now do about the strength of vital energy, I am struck by the power of the need to comply with the wishes of the adult, which, for Ava, won out over her almost vital need to go and play. MacLure et al. (2012) explain the probable reasons behind Ava's compliance in their study of behaviour in the early years classroom. They discuss how it becomes apparent to children in the Reception classroom very quickly that they are part of 'communities of consent or dissent' (MacLure et al., 2012:449) and those who do not conform are 'othered' and become objects of sustained negative discourses.

According to Laws and Davies (2000), children have about three months' allowance for establishing appropriate behaviour patterns. If they fail to establish this behaviour, the blame falls very much on the child rather than the context in which they have found themselves. Children need to understand what it is to be 'good', ensure that they are seen as being 'good' and secure positive affirmation for their 'goodness'. When opportunities arise to gain this affirmation, children who understand and respond to the need to comply (consciously or subconsciously) take them. We see this again in my field notes where Ava stopped to pick up the spilt paper but looked for recognition of her excellent behaviour from the adult:

> *When the tray is displaced for the third time, the girl (Ava) who has knocked it with her leg bends down and begins to pick up the pieces of tissue paper of her own volition. She looks towards where Mrs James is sitting as she begins her task, as if*

expecting some sort of comment, instruction, or request. Nothing comes, but she carries on.

This is another example of how our systems of 'schooling' can make us inattentive or insensitive to the authentic behaviours of the children they have been created for. Indeed, what comes from children's vital engagement in embodied experiences in the Reception classroom is the key to their potential.

Once Ava was able to leave the carpet, she headed straight for her original destination. I have noted that she did not walk but 'skips, lifting her arms up and down in an almost waving motion as she does'. Her desire to travel at speed and the movement of her body showed that her vital energy, now freely flowing, was building once again. The only way that she could reach the sand tray was by skirting around the collage table. The geography of the space and the narrowness of the gap between the table and the wall meant that she must change the physicality of how she was moving. Ava could no longer wave her arms or lift her legs to skip and speed. She had to slow down to a walk to enable her to negotiate the gap. Here the space and Ava's existence within that space became a block to the vital energy. The classroom, the wall, the table, the floor, the trays filled with paper and Ava were in a perpetual state of becoming. New becomings were generated by the combination of the materials themselves and the energies flowing through them. Each piece in the assemblage equally affected the others; their value increased and decreased as they came together to create something that was not in existence before. Vitality was produced within these assemblages but did not belong to any objects or elements that made up the assemblage. It flowed through them all and was carried by each of them. Things, as well as people, exert agency and are transformed (Bennett, 2010). Thinking and learning undoubtedly occur in these unforeseen encounters, but I argue that because we are not attuned to notice when this occurs, it goes unseen and therefore holds little value when it holds the ultimate power of potentiality.

Wave of Vitality

Although it was contact with Ava's leg that dislodged the tray full of tissue paper squares, before that, she appeared as a separate entity within the assemblage, present but not physically connected (other than her feet on the floor). When she picked up the paper squares, we can see how the subject and object connect physically. While touching the paper, the paper is also touching her. The sound and sensation of it crunching in her hand creates an immersive experience, fully engaging her with her material environment, causing her to change her behaviour and enter a mood of enchantment. Her original plan to play in the sand was disrupted. Her mood moved from one of intent to one of frustration and then of deep engagement. The paper was exerting its 'thing power' (Bennett, 2010), feeding the flow of her vital energy. Here, the vitality manifests in small, slow movements and deep concentration. Through small transient encounters like this, where children can engage with the material and non-human world, they can create alternative modes of involvement with their learning space, giving themselves complete ownership of it and what occurs within it. This open exploration of the potentiality that enhances the vital energy is what creates the best opportunities for enchantment.

Simultaneously, a child can open onto the world whilst also distancing from it (Wylie, 2009). The sun's heat through the glass caused Ava to sweat, which enabled the paper squares to stick to her hands for a time. They have become physically attached to her. When Barad (2007) talks about intra-activity, she discusses how individual elements within an assemblage mingle and lose their boundaries coming together. Ava and the paper became one. As the physical representation of Ava's vital energy slowed, as she scrunched and listened to the noise of the paper in her hand, it built again as she shook her hands to dislodge the paper. It is difficult to know if this action was because the paper sticking to her hands was too uncomfortable or challenging for Ava or whether it was about enabling her to complete a task. However, due to the shaking of her hands, we see this assemblage morph into another state of being, presenting a raft of other opportunities for engagement and intra-action:

Some of the paper she releases escapes from her fist, misses the tray and floats gently back to the floor. I watch her eyes track its movement until it finally comes to rest. Then she bends forward, pauses and then blows, softly at first, then much harder. Again, I watch her track the paper as it moves across the floor. Because of her body position, she is unseen by everyone apart from me.

At this moment, Ava's gaze attentively tracked the movement of the paper until it found its resting place. This embodiment of vitality was evident through Ava's heightened sensory awareness and bodily responsiveness, emphasising the dynamic exchange of subjective experiences. Ava's subsequent engagement with the paper, as she leant forward and used her lungs, mouth and lips to blow air upon it, showed her agency and desire to make the paper move, almost to give it life. Ava was in a state of affectual engagement, enthralled with the paper, its colour, texture and movement. This resonates with what Bennett (2010) says about enchantment: that ordinary objects possess a vital materiality that arouses wonder and curiosity. Moreover, the interplay between Ava and the environment shows how the boundaries between human and non-human entities blur, leading to a mutual co-constitution of agency.

Significantly, some of the paper landed in pools of sunlight created by the rays streaming through the windows. This further engaged Ava, capturing her interest. She appeared unaware of any surrounding noise and activity, engrossed and absorbed in her vital play. She positioned herself on the floor, meticulously selecting paper squares and placing them on her palm. Her movements became smaller and more considered than when trying to dislodge the paper from her palm. She showed thought and consideration by choosing to blow gently on the paper. She aimed to manoeuvre the paper into the sun-filled areas, the paper once again exerting its 'thing power'. Despite the unpredictable trajectories, she persisted, driven by her vital energy and desire to see the paper land in the sunshine. This persistence and her subtle vocal expressions of disappointment underscored her active engagement within this intra-action with the material world.

The Contagion of Affect

In witnessing Ava's exploration, I was drawn into her enchanted mood. It is palpable, as is apparent when I find myself sharing in Ava's triumph when a small square of pink tissue paper finds its place within the sunlit pool, evoking a triumphant whisper of '*yes!*'. It is in moments like this that my position as a researcher also transforms as I have been influenced by the contagious nature of the affective moment that is occurring. I have become invested in her emotional journey, which has taken me on one of my own. This shift reveals the idea that affect can spread and be shared and transmitted between individuals. I was no longer the researcher but had become a participant in a mutual exchange of an affective experience. Ultimately, I feel that this enhanced the complexity and depth of this research interaction where the dynamic force of the contagion of affect actively shaped the research.

Entanglement

This moment encapsulated the entangled nature of human and non-human agencies, echoing Barad's (2003), thinking where entities mutually shape and co-constitute each other's existence. In this moment of interaction, Ava's actions resonated with the theories of vitality and enchantment. Stern's (2010) theory of vitality, which emphasises the dynamic and expressive qualities of human experience, sheds light on Ava's intentional and deliberate behaviour. Stern (2010) argues that vitality affects how individuals engage with the world, emphasising the significance of bodily gestures, nonverbal communication, and the subtle nuances of human interaction.

Ava's decision to place the paper squares on my head suggested her engagement with vitality. Through this act, she imbued the paper with a sense of significance and transformed a mundane object into a playful, expressive, and connecting gesture. Stern (2010) suggests that such embodied actions can be seen as expressions of vitality, reflecting the child's desire for connection, communication, and shared experiences. The concept of enchantment further deepens our understanding of Ava's actions. According to Bennett (2010), enchantment involves perceiving the vibrant agency and liveliness of the material world and recognising its capacity to affect and inspire. Ava's placing the paper squares on

my head can be interpreted as being done in a mood of enchantment. Bennett (2010) suggests that such enchantment is a relational and empathetic mode of engagement with the world, recognising the vibrant forces that shape our experiences. By combining Stern's (2010) theory of vitality and Bennett's (2010) theory of enchantment, Ava's interaction comes into view in interesting ways. Her placing the paper squares on my head seems to reflect a desire to express herself and establish a connection. From my bystander position, the paper seemed to communicate this connection, suggesting how children are drawn to objects that can be appropriate for some kind of use. Ava's nonverbal interaction and gentle placement of the paper involved an interplay of vitality and enchantment. It embodied an expression of vitality while also acknowledging the agency and liveliness of the material world she was inhabiting. The convergence of vitality, enchantment, and intra-action, as observed through Ava's engagement with the paper squares, underscores the rich complexity of embodied experiences and the transformative potential within mundane materialities. Not only does this prompt a revaluation of our thinking about the conventional boundaries between the human and the more-than-human, but it also opens up new and exciting opportunities for understanding the intricate entanglements that characterise how children play and learn in the Reception classroom.

In her intra-action with the paper squares, Ava's actions embodied the entangled nature of human and non-human agencies, echoing Barad's (2007) idea that entities mutually shape and co-constitute each other's existence. Ava's decision to place paper squares on the researcher's head becomes a lens through which Stern's (2010) theory of vitality and Bennett's (2010) concept of enchantment converge. This revealed insights into the expressive qualities of Ava's human experience and the vibrant agency of the material world.

Stern also provides a lens through which we are able interpret Ava's intentional and deliberate behaviour. His emphasis on bodily gestures, nonverbal communication, and the nuanced dynamics of human interaction gives us a lens to view Ava's behaviour in terms of vital affect. Stern suggests that Ava's embodied actions are expressions of vitality, reflecting a child's inherent desire for connection, communication, and shared experiences. In

combination with the objects and space that surround her, the universe opens up a trajectory of emergent and dynamic movement.

Bennetts theory of enchantment (2010) also resonates with Ava's action intra-acting with and eventually placing the paper squares. It enables the perception of the vibrant agency of the material world and the recognition of its ability to affect and inspire. The paper squares, vibrant in the warm pools of sunlight, were sending an invitation to Ava to engage with them. In doing so they took on a significance showing how the material environment can become a source of connection, expression, and enchantment.

In this vignette the arc of vital energy, like a wave, reached a peak of potential enchantment and then faded as Ava's engagement with the paper squares ended. Within this event an assemblage had occurred that enabled emergent dynamic intra-actions to follow their natural course.

Ava's encounter with the paper squares in the sunshine is an example of the sometimes-fleeting nature of these moments of enchantment and a reminder of the constantly changing interplay between children and their material surroundings. Once again in this vignette we see the transformative potential of what are often regarded as everyday classroom resources, serving as a reminder of the infinite possibilities that exist through the relationships within the material-discursive apparatus.

Discussion

Ava's capacity and opportunity to engage with the non-human world around her is what results in her experience of enchantment. Stern's (2010) notion of vitality enables us to interpret Ava's actions and reactions as an ongoing dialogue with her environment which results in a building of quiet energy and self-absorption, which eventually results in a moment of enchantment. When Ava places the paper squares on my head we can see her vitality manifest itself in the connection that she makes without the need for spoken words.

Using Bennett (2010) as a lens, we can deepen our understanding of what we are seeing and can notice the transformative power of the paper squares and the sunlight, which take

on liveliness and agency within this material world. Through her engagement, we see an embodiment of the transformative potential of enchantment.

Through intra-active touch, as articulated by Barad (2007), we see the boundaries between Ava's physical being and the world around her blur as she becomes more entangled with the agency of the materials that she comes into contact with. Watching her closely gives an insight into the possibilities that exist to enhance children's learning opportunities. Further, it reshapes our understanding of the transformative power of the environment and the role of the adult to embrace the potentialities and challenge the conventions of the Reception classroom, acknowledging the agency that exists within children and the vibrancy of the material world.

Summary

In this intricate exploration of vibrant matter (Bennett 2010) within the Reception classroom, there was a dynamic interplay of elements that shaped the emergence of vital energy in Ava's play. The relationalities between space, object, child and researcher became pivotal in understanding the unfolding dynamics of this event.

The large plastic tray was repeatedly knocked off the table. This served initially as a disruptive actant, but then as the account unfolded, we see that that it brought both disruption and potentiality. This aligns with the New Material Feminist thinking of writers such as Barad (2007), that disruption in the material world can lead to opportunities for vitality and engagement. The materiality of the tray became an agent in shaping the ensemble, contributing to the potentialities and meaning-making of Ava's encounter with the space. Her intra-action with the tissue paper squares further revealed a nuanced exploration of vitality and agency. Her initial use of rough and hurried grabbing signified a surge within her of vital energy. The tactile and auditory experiences of scrunching the paper highlighted the multisensory nature of her engagement. The paper squares, initially disregarded and displaced from the tray, re-emerged as significant objects of potentiality, particularly when illuminated by sunlight. Ava appeared to select the squares based on colour, demonstrating her engagement with this vibrant matter. The squares also appeared

to be inviting Ava's touch as she returned to them repeatedly, further emphasising the agentic capacities of materials and their thing power (Bennett 2010). The researcher also became a significant object within this assemblage, mediating Ava's social interaction through the vibrant matter of the paper. The interconnectedness of individual agency and shared experience within this entanglement added layers to the complexity of the encounter.

The spatial dynamics, marked by the limited space around the table, served as both a hindrance and an opportunity. The difficulty that Ava experienced in having to navigate the narrow space around the table caused her to use her body in different ways. It is that adaptation of movement that resulted in the tray being knocked to the floor, unlocking the potentiality of the experience that was to follow. The disruption caused by the falling tray introduced opportunities for multiple unfolding dynamics within this new medley of matter. The spatial separation that existed within the space between the teacher and children influenced the affective dimensions of the ensemble. Ava remained unseen, allowing the vital energy that was generated by this convergence to build, peak and dissipate (Stern 2010) without interruption. The teacher's negative comments when the tray fell were in response to what she heard, not what she saw. Initially her words functioned as a means of control; they shaped the early dynamics of the encounter and established expectations that initially acted as constraints to Ava's behaviour. Although Ava complied with the initial request to pick up the tray and its contents, her engagement became woven into the encounter with the paper squares and sunlight. This ultimately meant that she resisted the adult intervention once she has glimpsed the potentiality in the intra-action (Barad 2007). Ava's unspoken language, manifested through her almost inaudible sighs and groans, also played a crucial role in shaping the assemblage as her subtle expressions, combined with her movements, added to the existing sensory landscape and emphasising the affective dimensions that were being communicated, not just through words, but through the language of her body, breath and voice.

In examining the relationalities between elements, it became evident how disruptions, spatial dynamics, and material-discursive apparatus undermine the building of vital energy (Stern 2010). The interconnectedness of space, object, and child shaped the emergence of

worldings within the convergence. This uninterrupted worlding (Manning 2014) of Ava prompts considerations about the potential for sustained possibilities in the absence of disruption. It underscores the delicate balance between external influence and the inherent dynamism of the ensemble. The material-discursive apparatus, encompassing spatial arrangements and lack of ongoing adult comments, emerged here as a critical factor in shaping the conditions that offered opportunities for extended worlding, entanglements, and possibilities within assemblages.

For the final vignette, we return to St John's Primary. The children had gathered together on their carpet area after lunch for registration and then a whole class teaching input. The children were then either directed to work in groups with an adult or to choose from the provision that was available both indoors and outdoors.

Beetle

Introduction

In this final excerpt from my field notes I further explore the notion of enchantment as being present within a negative experience, drawing on the writing of Wylie (2009). I will also build on my exploration of Bennett (2011) and Ingold (2015) to highlight the difference between a moment of enchantment and a moment of curiosity. The intra-action between Luca and the beetle allows me to further explore the vital forces that drive his engagement with the material world around him, and also highlight the transformative potential that is lost due to the policy-dominated context of the Reception classroom. To recognise the importance of challenging this thinking and further highlight the need for a pedagogical shift, I use the work of Clark (2023), which shows how we can enable practitioners to notice and value children's agency by creating 'slow' spaces that will allow for curiosity-driven exploration and the time for moments of transformational enchantment to occur.

How Many Legs?

For the following encounter, we return to St John's Primary School. It is a dull and damp autumnal day and I have joined the children outside. The outside area is large and consists of both a hard-standing space that has various play spaces set up on it and a grassed area that has recently been enhanced with various defined play spaces such as a water wall, mud kitchen and digging pit. What I have realised in looking back through my field notes is that I seem to be drawn to the places and spaces that are tucked away, often partially or completely obscured from the teacher's view. Maybe it is because the children can play unseen in these spaces that I have seen most affective encounters take place here. Although I was not consciously aware of this pattern forming, I can see that over the time that I spent in both of the schools that my research took place in, I became an active seeker of the secluded space, as can be seen through the excerpt below:

I find myself back at the tree house. It isn't a tree house, more a house raised from the ground on short legs, but a tree house is what the children call it. It is a damp day and there is a smell of autumn in the air. Around the bottom of the tree house, the grass has been worn away to mud. An adult has placed some brightly coloured, child-sized trowels, forks, and spades in the looser soil towards the edge of the space. The space is bordered by shrubs, at the base of which there are lots of large pebbles and stones and also the remnants of a 'bug hotel' that are now strewn in between the base of the shrubs. There are large sticks, log slices, pinecones, and short lengths of hollow bamboo. This space is slightly tucked away from the main play space and the shrubs give cover, especially if you are sitting or playing on the ground. I decide to position myself on the other side of the shrubs, near an overgrown planter. Here I get a good view of the space, but I am mostly obscured by the content of the planter and the shrubs from anyone playing in it.

There are a couple of small flurries of activity where children run through or around the space as part of a different game, but no one lingers to play. I am getting cold, and I can feel the damp wood from the planter that I am sitting seeping through my trousers which is making me uncomfortable, so I make the decision to move to another space. Just as I am gathering up my notebook and pen, Luca wanders into the space. I use the word 'wanders' deliberately as there was nothing rushed or purposeful about the way that he moved. It is as if he has ended up there by accident. He does not appear to have come with a purpose in mind, he hasn't come to dig or climb or as part of a bigger game. He pauses in the middle of the space and looks at the digging equipment that is on the ground. After taking in what was there, he kicks one of the rakes, which goes flying with some force into the shrubs. He smiles, looks around and then does the same thing to a spade, missing with his first kick but catching the handle with a second attempt. The spade also flies towards the shrubs but hits one of the larger stones with a glancing blow. As the metal spade makes contact with the stone, it makes a loud 'ching' sound before bouncing back towards Luca. Luca looks at the spade on the ground before crouching down to see what it has hit. I expect him to kick the spade again, but instead, he goes into the shrubs and retrieves the stone and places it on the open ground where he is standing. He then goes back to the shrubs and repeats this process until he has 5 stones of different shapes and sizes in a line. He does this with some speed, bending to pick up each stone, before bending again to carefully place it and then repeating

the action almost identically. He then takes the metal spade and begins to hit the stones in order, gently at first and then with some force. He repeats this action several times, only stopping to look behind him to see if anyone else is coming or has noticed. After a short while, he goes back to the shrubs and this time pulled out a piece of an old branch. It has been there for some time and had begun to rot and break apart in places. Luca adds this to the end of the line of stones and begins his process again, hitting each stone and then the wood. Every time he hits the branch, small pieces broke off at the ends. I observe Luca watch this happen and then he puts down the spade and lifts his foot to stamp on the branch, hard. He raises his hands above his head and then brings them down with force, as if to add more power to his foot.

The wood breaks easily and splinters into several damp shards. The ease with which it breaks does not match the force with which Luca stamped on it and the force of his foot hitting the floor makes him take an involuntary step backwards. This seems to surprise him, but not as much as what emerges from the splintered wood.
I don't see the beetles at first, because I am looking at Luca's face, which moves from an expression of puzzlement at his unexpected movement backwards to one of shock and surprise. It is this change in his face that causes me to look again at the wood. I am not sure how many beetles called that branch home, but I see two that are zigzagging across the mud at great speed. They are heading for the cover of the shrubbery.
Luca lifts his foot and stamps down hard on one of the beetles, which by some miracle must be wedged between the treads in his boots, because when he tentatively lifts his foot, it is still alive and still moving. Luca does not take his eyes off the beetle, this time lunging for it with his hand and managing to scoop it up in a handful of bits of dead leaf and loose damp soil. At no point does he look back to see if anyone else is nearby. He is completely absorbed in his quest to catch the beetle.

Luca crouches down and carefully opens his hand, picking out bits of leaf and grit. I can now see the beetle is completely still, dead centre in his dirty palm. It is a small black beetle, with a longer oval-shaped abdomen and what looks to be red tops to its legs. Luca watches the beetle for a short while and it still doesn't move. At this point he pokes it with his finger and the beetle shoots off across his hand, giving him (and me) a fright and causing him to throw

it up in the air. The beetle lands on its back with its legs frantically kicking in an attempt to right itself and escape. This gives Luca the time he needs to slam his cupped hand over the beetle and scoop it up again, this time with two hands pressed together. I watch Luca open his hands a tiny bit, where his thumbs cross, and look in. He then begins to hop from foot to foot while shaking his clasped hands up and down making a repeated 'Ah, ah, ah,' sound as if being tickled or bitten. It looks as though he wanted to open his hands but doesn't want to lose the beetle again.

With hands still clasped, he walks out of the tree house area and onto the main playground. He walks really slowly, with his clasped hands pulled tight towards his chest. He approaches the first children that he sees, two girls who are playing with a doll in a buggy. I am a little distance behind him, so I don't hear what he says to them, but they gather close to him, watching intently as he slowly opens his hands, then they scream and run away, at which point Luca laughs and then does his hopping dance again.
The girls go straight to alert the teacher (Mrs James) who is in the outdoor area, and they come over and asked Luca if they can see what was in his hands. Luca gently opens his hands to reveal the beetle, now still, in the centre of his palm. He quickly closes his hands again. There then follows a discussion where Mrs James says that this is really interesting and has Luca notice the red legs, which are unusual. Luca is then asked if he can count the legs and he says he can't because the beetle keeps moving, so he keeps having to close his hands to stop it from running away.

Mrs James suggests that Luca returns the beetle to its home, as it might have a family that is missing it. She also says it would be like a giant hand coming and lifting Luca out of the playground and taking him away. Luca is asked how he would feel about that, but this is a rhetorical question, so Luca doesn't answer.

Mrs James says, 'Off you go, and don't forget to say "bye, bye" when you let him go.'
Luca walks back across to the playground to the tree house area. When he gets there, he looks behind him to see if Mrs James is watching. She is.

I watch him bend down and open his hands, but rather than let the beetle go, he closes one hand around it, stands up, looks back at Mrs James, waves with the other hand said 'bye, bye' and then puts the beetle into his trouser pocket.

He then runs off to play. I watch him throughout the time he is outside and never once does he retrieve the beetle from his pocket that I see.

Following the time outdoors, the children all go in and gather on the carpet for a teaching input. Luca seems fully engaged in this session and at no point do I see him take out the beetle.

After this teaching input, the children who aren't working with Mrs James are encouraged to 'do jobs' and find spaces to play. Luca is one of the last to leave the carpet space and makes his way to the sand tray, which is positioned behind a solid wood shelving unit. There are two other children playing in the sand, but Luca doesn't engage with them, he puts his hand in his pocket, crouched down so that his back is resting against the lowest shelf. He takes the smallest plastic sieve, used for sifting sand, off the shelf and places what is in his hand in the bottom of it, quickly putting his hand over the top. He has clearly made a deliberate choice with the sieve. As soon as his hand is over the top, he lifts it up to look through the tiny mesh holes. There is the beetle, almost 2 hours since it was first caught.

The beetle isn't moving. Luca is staring at it intently. He begins to gently shake the sieve and still the beetle doesn't move. Luca takes his hand away from the top of the sieve and uses a single finger, gently pushed the abdomen of the beetle. The beetle still doesn't move. Luca is watching the beetle intently, but now I notice that his cheeks have begun to flush. He lets his body slide down, so that he is now sitting on the floor. At this point, Luca collects some spit in his mouth and puts it on the end of his finger. He then uses the spit-covered finger to gently stroke the back of the beetle. Not only are his cheeks flushed, but the corners of his mouth are twitching and turning down. Luca has realised that the beetle is dead and is about to cry. He stops stroking the beetle and just stares at it. Tears begin to roll down his cheeks. He does not make any sound or movement other than the occasional blink. All he

does is looks at the beetle. He appears to be transfixed. This moment lasts for a short period of time, a minute, if that.

Then Luca put the sieve on the floor and picks out the beetle. It has died with its legs tucked under its body, so all you can see is its head and abdomen, which are catching the light as Luca holds it between two fingers. Luca spends some time letting the beetle fall from hand to hand, passing between his fingers. As he does, the light catches the beetle's outer shell, making it shine and revealing a ribbed texture which to that point has been undiscovered. Luca pauses and runs his thumb forwards and backwards across the rib a number of times. He then turns the beetle upside down and, one at a time, peels the legs from under its body, counting each one in turn out loud. When he reaches his total (he included the antennae, so got to 8), he leaves the beetle in the bottom of the sieve on the floor where he has been sitting and goes to play in the Construction Area. He doesn't return to the space or the beetle, which is still where he left it long after the children have gone home.

Wandering

When I first find Luca in the outdoor space, he appeared to be wandering. There was no pace or haste to his movement, he was meandering, giving the environment time and invitation to inspire and engage him, a flaneur, with no other purpose than to be an observer of his surroundings. He was what Ingold (2015:133) describes as a 'wayfarer', navigating his way through the environment, having no destination in mind but learning as he went and as opportunities presented themselves, 'In the carrying on of the wayfarer, every destination is by the way; his path runs always in between. The movement of the navigator, by contrast, are point-to-point, and every point has been arrived at, by calculation, even before setting off towards it.'

Bissell's (2013) concept of 'pointillist mobilities', how affective moments within movement through a space can be significant, illustrates what Luca's interactions with the environment that he was inhabiting produced. There appeared to be moments of curiosity, surprise, and reflection. These all became distinct points in his mobility journey. It was these points of affective experience that underpinned his embodied ways of knowing and experiencing the

world. Hackett (2016) draws on Ingold's (2015) concept of the wayfaring child, highlighting how the child's sense of agency, curiosity and capacity to shape their own experience and learning is enhanced when they are given the opportunity to explore and create their own curious pathways. She highlights that 'movement through place creates embodied, tacit ways of knowing and experiencing the world' (Hackett, 2016:2) and that this embodied knowledge needs to be better represented and accounted for in the way that we understand and support young children's learning. This pace creates the space, and potentiality, that allows the unexpected to occur. It enabled Luca to breathe with his environment, think, reflect, consider, and choose options that are not often available to children in the very timetabled, activity-led, outcome-driven environments of many of the Reception classrooms that I have encountered.

Slow, Hidden Spaces

Clark (2023) discusses the concept of the 'unhurried child' and the positive impact that a lack of planned pace can have on children's learning. Outside of the classroom, and away from the adults, Luca appeared unhurried.

As has been the case in most of the examples from my field notes that I have shared, Luca found a space that was more secluded, where he could not be as easily seen or monitored by an adult. This space was not entirely without the influence of the adult. Resources had been selected and placed to engage any children that visited the space in some sort of digging activity. Whether conscious or not, Luca's choice to kick those resources into the bushes rather than engage with them in the way that I presume the adult had intended gives us a clear and stark message about how our current neoliberal system of early childhood education is manifesting itself in children's emotions and physical actions. Corsaro (2005) challenges the traditional view of children in the nursery as passive learners just waiting for adults to teach them. Through his research he highlighted the complex social relationships that existed between them and how, through their play, they were able to offer invaluable insight and comment on the adult world they inhabited. This insight is often overlooked or misunderstood. Here, Luca's actions allow us to see the effects of a policy-driven early education system on the children who have no other option than to engage

with it. The ‘planned’ resources are kicked away with great force, which then leaves opportunity for vitality, curiosity and moments of enchantment. This shows us the importance of recognising and valuing children’s agency and perspective, seeing them as active participants in the shaping of their learning. Actions such as the ones that Luca displayed give him a clear voice and message, albeit a voice that needs to be noticed as it is one that you cannot hear.

There was a real sense here that Luca’s vital energy was building within this space, the kicking of the metal spades enabling it to build further. It was the intra-action between Luca’s foot, the spade and the stone that switched his mood from one of aggression to one of curiosity. The space itself and the actants within it resulted in accidental experimentation, engagement and potential for learning. Just as the stone that was hidden in the shrubbery unexpectedly changed the trajectory of the spade, the resulting noise peaked Luca’s curiosity and changed the trajectory of his actions and feelings. Deleuze and Guattari (2004:238) refer to this as ‘lines of flight’; when something occurs that changes what was expected or predicted to happen next. This opens up the potentiality of the emergence of new possibilities and unexpected outcomes. Luca’s surprise evoked curiosity and created space for new connections and possibilities to emerge. The ‘familiar’ meaning attached to the spade is its use as a tool for digging; indeed, the spades were placed alongside other digging implements in an area of loose soil. Yet, the intra-action between the spade and the stone produced the catalyst that enabled Luca to investigate the affordances and materialities of the space around him, taking him off track, changing his perspective and making something new.

Luca’s demeanour changed once again from one of unhurriedness to one of aggression and then to one of purpose. His plan to collect the stones and lay them out in a particular way had clear intent. The space became vibrant, and we can clearly see the vitality that these non-human entities were fostering in Luca. He moved with rhythm, pace and purpose, his vital energy growing. There was almost a choreography in his repeated action of bending to take a stone, lifting it, taking the same number of steps before bending to place it and repeat the movement again.

Vital Rhythm

Rhythm plays a key role in Stern's theory of vital affects. Stern (2010) talks about how rhythmic interactions between infants and their caregivers, like expressions, noises and gestures, create a deep sense of connection. It is through these rhythmic interactions that children and caregivers learn to attune to each other. Here we see Luca used rhythmical movement to express his vitality and attune to his environment, making an emotional, as well as physical, connection. Through his movement he cemented his intra-action with this assemblage in a 'dance' of mutual responsiveness. How rhythm appears in everyday interactions and shapes our experiences of the environment is also explored by Lefebvre (2013) in his concept of rhythmanalysis. Luca's movements, such as his lifting and placing of the stones and his striking of them with a spade, created a distinct rhythm. This rhythm was a way of Luca further intra-acting with the environment. Lefebvre (2013) describes how the conscious and subconscious rhythms that we create help us to attune with the natural rhythms of the environments that we inhabit in embodied and sensory way, deepening our connection with them.

Pyyry's (2014) writing on children's experiences in natural environments and the aesthetics of everyday life further helps to articulate Luca's interaction with his environment. His embodied encounter with the environment that he was inhabiting enabled a rich sensorial engagement which had transformative potential; his senses became heightened as he became more and more attuned to the subtleties and intricacies and the transformative potential of the non-human actants around him. This continued as Luca recreated the intra-action between the spade and the stone, repeating the process but using his body to increase the force of the blow and therefore the sound that is produced, exemplifying the interplay and dynamic between the non-human world and Luca's own embodied experience. Stern (2004:21) says that 'vitality affects are the building blocks of experience' and here we can see that in action: Luca being able to build and express the flow of his vital energy freely. It is interesting to note that Luca was not experiencing complete absorption and freedom in this encounter. He (like many of the children in the examples I have used from my field notes) at times became hypervigilant, breaking the flow of their play and intra-action to check if they are being observed by an adult.

Curiosity

Although curiosity can lead to moments of enchantment, the two states, whilst interconnected, are different. Curiosity is driven by our desire to increase what we know; it pushes us to explore and find out more. It is an 'active' and compelling force. Enchantment, on the other hand, comes as a result of a deep emotional connection with the environment around us, often bound to a sense of wonder or fear. Grosz (2008:147) describes curiosity as 'an active engagement with the material world, driving our desire to explore the intricate entanglements of bodies and matter'. Curiosity, therefore, has an essential role to play in feeding our vitality affect. It is this building of 'curious energy' that propels us forward in our vital journeys, that may result in a state of enchantment. Bennett describes this as a sense of connectedness and openness to the unusual, everyday life; a feeling of belonging to something larger than oneself.

Vitality, curiosity and enchantment all play a significant role in children's intra-actions with the material world that they inhabit, encouraging and enabling them to investigate and explore the entangled relationships that exist between human and non-human entities. To maximise the potential of these states of being for children in the Reception classroom, adults need to be empowered with the knowledge to recognise and understand them. They need to be given the freedom to create 'slow' spaces that manifest opportunities for them to occur as part of the 'everyday' and for that to occur there needs to be a shift in the pedagogy that underpins our current education system. Cuffaro (1995:9) highlights this point when she says 'for too long teachers have been described as faceless constants, not unlike furniture found in the classroom, mechanically enacting and implementing the ideas and plans of others.' She stresses the point that these portraits of teachers were produced by a system that 'implicitly and explicitly silenced teachers and thwarted the emergence of imaginative teaching' Cuffaro (1995:9). It is these conditions and systems that are ingrained in the concept of what is 'best practice', confirmed, repeated and embedded by governing bodies that make value judgements against adults' performance.

Thought in Action

We see Cuffaro's (1995) thoughts in action when Mrs James asked Luca if she could see what was in his hand. He clearly had a high level of vital energy and engagement, and the adult appeared to recognise that, but in the context of misbehaviour or disruption. The two girls seemingly expressed discomfort about what Luca had in his hands. Although Mrs James acknowledged the beetle, and to some extent engaged with Luca's interest in it, she quickly suggested that he return it to where he found it, which irradicated the issue for her. To illustrate Cuffaro's (1995) point, although the adult recognises the fact that having a beetle in your hand is out of the ordinary and even notices that it has unusual red legs, rather than pursue Luca's engagement, she asks him if he can count the legs. An unnecessary process that links directly to the outcome-driven system that has silenced her and thwarted the emergence of her imaginative teaching. Luca had caused some disruption with the beetle, and it appeared that him returning the beetle and eradicating the possibility of further disruption was important to Mrs James. Rather than talking with Luca about what a beetle needs to survive, or even suggesting that they create a better habitat for looking at the beetle, she humanised it, talking about its family and friends. She also related it to Luca on an emotional level using a fear, creating a scenario of him being 'taken away' by a 'giant hand' and asking him how that would make him feel. Asking him to say 'goodbye' to the beetle felt like a very final statement, ensuring that it will not come back. Once again, the adult was stopping or stemming the vital flow of Luca's play. This was not the hard stop that would have occurred if the adult had physically taken the beetle away, but a slower stop that relied on Luca to act on the wishes of Mrs James. However, his vital energy and desire to intra-act with the beetle was so strong that it overrode any moral pull that Luca had to conform to the wishes of the adult and allowed him to subvert his 'expected' behaviour. We know that he had understood and chosen to ignore the wishes of the adult, because he checked to see if he was being watched and then publicly conformed with the instruction to say goodbye to the beetle, whilst putting it into his pocket. We could see this as a natural peak or break in the wave of Luca's vital energy. He had ownership of the thing that he wanted, the beetle. This scenario has seen Luca on a journey of transformation. Deleuze and Guattari's (1987) concept of becoming gives us a way of interpreting these events. The

experience that Luca had in finding and then possessing the beetle has been transformative for him; his identity was in a continuous process of dynamic change and adaptation, a sense of becoming-other. By putting the beetle into his pocket, he absorbed it into his being, he could no longer see it, but he was aware that it was there because he put it there. Too small to physically feel, but emotionally very much part of a Luca-beetle-pocket-trouser assemblage. The beetle had agency, and this had a significant impact on Luca's human experience.

Another reason that I feel that the placing of the beetle into his pocket was a peak for Luca's wave of vitality is that his behaviour afterwards showed a high level of calm and compliance, unlike in previous examples I have given where children, whose vital flow has been blocked or stopped, still showed clear signs that their vital energy needed to be released. It was not until Luca left the gathering on the carpet that we saw evidence of that vitality beginning to grow again, this time resulting in a moment of enchantment, albeit one grounded in the negative emotions of shock and sadness.

Enchantment from Despair

When Luca left the carpet area, it appeared to be with intent. At this point in my observation of him, he was not wandering, he knew exactly where he wanted to go. He chose a space where he knew that he could not be seen. This was not new knowledge that he was discovering for the first time by chance. He knew that the adults could not see him here which means that he must have sought out places to remain 'unseen' on previous occasions, so this is important to him.

Luca's apparent curiosity to see the beetle again was perhaps also driving his desire to problem-solve and think both practically and creatively. He chose a sieve to put the beetle into because he knew that it had holes that would be big enough to allow him to see, but not too big to let the beetle escape. He also selected the smallest sieve, knowing that his hand would completely enclose the top. He did all of this in quick, confident movements, that also showed his vital energy building again. The fact that he clamped his hand quickly over the top of the sieve tells us that he assumed that the beetle was still going to be alive.

Luca's vital energy remained strong, but we see its source change from curiosity to despair. When Luca shook, stroked, and pushed the beetle with his finger, he may have thought that it was asleep, and he was showed great sensitivity and care in his interaction with this creature that he had previously kept in the bottom of his pocket. When it failed to respond, I suspect that he began to assume that it was dead. Even though the beetle had now become an inanimate object, it still had vibrancy for Luca. This is an example of matter showing its transformational potential during a more-than-human encounter. I was fascinated by Luca's decision to spit on his finger and rub it onto the beetle. I can only assume that this was an act of care in the way that someone may have rubbed ointment or lotion onto Luca when he had been sore or ill. It shows his strong desire for the beetle not to be dead. Stern (2004) explains that the foundations of our life experiences are built from emotions, embodied experiences and vitality affects, and it was the shock of the growing realisation that the beetle was dead that broke this wave of vitality and simultaneously propelled Luca into a state of enchantment. Wylie (2009) suggests that enchantment can come from moments of despair. As a result of that negative emotion, children are able to engage in an affective encounter that is transformative, allowing them to experience and see the world in a new way. It is this engagement, even with negative emotions, that opens up opportunities for the exploration of self-expression, imagination and creativity alongside a deeper understanding of the more-than-human world.

Even though Luca's initial moment of enchantment came from a place of discomfort, he remained in a mood of enchantment for some time, holding the beetle gently between his thumb and finger and deliberately moving it around in the sun to catch the light. It appeared that the beetle had shifted from being a living, moving, creature to a fascinating object that could be manipulated, touched, experienced and explored in a new and different way. Luca, now safe in the knowledge that the beetle was not going to run away, was able to focus his energy on looking and touching, immersed in affective engagement with the dead creature. In one final and fascinating comment on the education system that he is subjected to, Luca's actions echo the earlier request of the adult. This shows how, even though that request restricted his intra-actions and dammed the flow of his vital energy, he has been conditioned to understand the need to comply with the requests of the adult. Luca took the dead beetle and pulled off all its legs, counting out loud as he did so. After all his rich

experience and time spent exploring, examining, and engaging with the beetle, in an act of subconscious conformity he completes the leg counting task given to him by the adult. This action allowed his vital energy to naturally dissipate and him to move on, leaving the physical matter of the experience behind him.

Discussion

Luca's intra-action with the beetle highlighted the complex inter-relations, and tensions, that exist in the Reception classroom between materiality, affect, vitality, enchantment and the socio-political contexts of the policies that underpin the pedagogy of the current education system. Throughout this account we see a number of vital forces at play, highlighted by the agency and vitality of non-human entities that go unseen and therefore undervalued by the adult. This results in the transformative potential of states like enchantment being wasted. Bennett (2010:4) commented that 'to be enchanted is to be affected by a presence or force that is 'more than' us'. Time and again in my observations of children at play, I have been able to identify the presence or the force that is 'more than', but only because I have learned, over time, to look for it.

Practitioners are not blind to the 'more than us', they are just conditioned to see it as something else, and often that something else is non-conformity or inappropriateness. This reinforces the point that I have made on a number of occasions throughout this study. If practitioners had a different lens, they would be able to recognise its potential and with a less neoliberal, policy-driven education system they would have the time and space to enable children to engage in curiosity-driven exploration of their vital spaces.

Shifting Positionality

As I have progressed through these empirical chapters, I have come to see the prevalence of vitality affects and the important role they play in enabling an experience of enchantment. I have also moved beyond seeing enchantment as a singular 'state of wonder' as described by Bennett (2001:5). Instead, I have explored the possibility that enchantment can be a mood or a feeling, not always characterised by an atmosphere of 'fullness, plenitude, or liveliness'

(Bennett, 2001:5), but that can also exist in moments of sadness and despair. As with moments of extreme joy or pleasure, when we experience sadness or shock, we become momentarily unbalanced and disconnected from our world, uprooted and replanted to somewhere that is the same, but different. As Wylie (2009:275) contends:

> 'Our perspective altered; our engagement high, but our world reordered. Enchantment is a fundamental encounter; it exists in the space in between two worlds, the familiar old and the unfamiliar new.'

Wylie (2009:279) also described enchantment it as 'an experience of simultaneous immersion and disconnect with the world'. It is a coming together of a range of affective forces that radically alter the dynamic, whilst providing moments of true clarity. This state can occur equally as a positive or a negative experience, which I will explore further through Luca's encounter with the ill-fated beetle.

Throughout this project, I have had the opportunity to dedicate time to acquiring insights that enable me to perceive children as active participants in their own educational journeys. The knowledge I have gained has enabled me to step away from my some of my fundamental pedagogical beliefs and approaches. This shift, although often difficult, has granted me the freedom to reflect on and question some of the long-held views of what constitutes effective practice in early childhood education. If other educators were similarly granted this freedom from external pressure, time and knowledge, they too could begin to look for and appreciate the multifaceted nature of children's play in an environment that promotes unencumbered vital engagement, authentic agency and the co-construction of knowledge.

Making Space for Agency

Barad (2007) and Lenz Taguchi (2011) revealed how agency, autonomy and creativity emerge when children are freed from a culture of compliance where adult-directed, outcome-driven activities hinder their opportunities to immerse themselves in the transformational potential of the more-than-human. Wylie (2009) extends Bennett's (2010)

notion of enchantment, showing that it is not defined by a single state of elation or wonder but can emerge equally transformatively from states of sadness and despair. In addition, Murris (2016) suggests that giving children free and unfettered access to their environment is crucial in enabling them to become what he describes as co-constructors in their learning. Drawing on Ingold's (2000) concept of 'enskillment', I show how, during moments of unencumbered play, children engage with the vibrant matter within their surroundings in a dynamic and embodied manner. This approach encourages dynamic and unpredictable intra-actions between human and non-human actants and harnessing the potential of 'thing power' (Bennett 2010). Close observation and analysis of these dynamics has enabled me to gain insights into how children's social interactions and perhaps sense of self are shaped by the flow of vital energy within their play and interactions.

Summary

Luca's intra-action with various objects within this account revealed a complex interplay of elements that contributed to the building of vital energy in his play. His chosen outdoor play space was tucked away, concealed by shrubs, and served as a springboard for his spontaneous exploration. The shrubs not only provided seclusion for his actions, but also concealed natural objects like stones and wood, creating a multi-dimensional association where the boundaries of space, self, and matter became fluid and interwoven. The materiality of objects converged with Luca's corporeal presence, blurring boundaries between them and allowing for an interplay of his vitality and agency. As Luca gravitated towards the tree house area, he appeared not to have been drawn by the objects that had been placed there by the teacher, but instead by the potentiality of the hiddenness of the space and the lure of the elements waiting to be discovered (Bennett 2010). This secluded space facilitated the convergence of his vibrant engagement with the fabric of the surroundings.

The apparent allure of seclusion for Luca was signified in a space where relationalities between elements manifest organically. Within this context, the intricate interplay between space, objects, and the child materialises, fostering a dynamic assemblage conducive to the generating and maintaining of vital energy (Stern 2010). This space functioned as a

backdrop for the emergence and evolution of worldings (Manning 2014), where the dynamic interaction of elements facilitated the generation and dissipation of vital energy. This reflected the transient and evolving nature inherent in intra-active play experiences. What appeared to set this space apart was its potential for autonomy; here adult influence and interaction were minimal. This allowed Luca's exploration to unfold organically. The spatial dynamics became a canvas for Luca's curiosity and allowed opportunities for intricate interplay to occur between the human and more-than--human, the intentional and the spontaneous. It was here that the essence of spatial richness and complexity could unfold, fostering an environment where vital energies could grow and dissipate freely.

Luca's move to the larger playground introduced new spatial dynamics and possibilities. Here, the interplay of human encounters with two girls and Mrs James added another layer to the composition, shaping the unfolding narratives. The spatial transition also brought a shift in sensory experiences, emphasising the inseparable connection between bodies, senses, and the material environment. These elements of the spatial dimension were not merely a background, they participated in the event, influencing the flow of vitality and the coalescence of intra-actions. Luca's apparent familiarity with the geography of these spaces, and the choices that he made about which ones to inhabit, highlighted the resonance that they held for him, feeding his vital energies and aligning with his intrinsic motivations.

The relationality was evident in Luca's choices of space and objects. The discovery of the beetle became a central actant, blurring the boundaries between traditional learning and transformative experiences. Luca's engagement with various objects unveiled a narrative emphasising the potential of objects within the ensemble, each contributing to the interplay between human and non-human forces. Mrs James' language in the playground functioned as a dynamic force, shaping the social dimensions, and exerting influence over the power dynamic. The screams of the girls also contributed to the sensory landscape, representing embodied responses and potential disruptions.

Luca's response to the suggestion from Mrs James to count the beetle's legs reflected an interplay between his spontaneous, vital exploration and the influence of external expectations. Despite initially resisting the teacher's intervention to redirect his activity to

one with a more prescribed learning outcome, the echoes of Mrs James' suggestion seemed to linger within the event. This was seen in his later act of counting the beetle's legs once he realised that the beetle was dead. It was as if the spectre of Mrs James' request remained present in his intra-actions, revealing the complex and subtle ways external expectations can shape even the most liberated expressions of vitality.

Luca used touch to enact the blurring of boundaries, allowing for multi-dimensional ensembles to unfold. His tactile experiences appeared as a crucial form of vitality, with his engagement with various objects becoming expressions that intertwine him within the material world. The relationality that we saw between elements enabled vital energy to build in Luca's play, with the interplay of space, object and child shaping the emergent dynamics. The disrupted worlding due to adult intervention in the playground again raised questions about sustained possibilities if not for the interruption. We saw Luca at his most engaged and absorbed when he was 'hidden' and free from adult intervention or disruption. This highlights the delicate balance that exists between external influence and the inherent dynamism of an assemblage.

Riding the Wave of Vitality

In chapter four, once again, the diffraction of field notes through the work of a number of theorists has enabled the profound impact of abruptly halting children's vital energy to become visible.

In this chapter, Stern's framework (2010) was generative in enabling me to reflect on instances where children's vital energy had been enabled to grow naturally, peak, and dissipate without significant adult interruption. Murris' perspective (2016) underscores the importance of granting children unrestricted access to their environment, positioning them as co-constructors in their learning journey. The dynamic here suggests that children are not merely co-constructors of knowledge with teachers, instead, they emerge as autonomous agents, forging connections that resonate with intrinsic significance, transcending the pedagogical structures that may attempt to confine their play and learning.

Thinking with Ingold's (2013) concept of 'enskillment' sheds light on how, during moments of uninterrupted play, children dynamically engage with the vibrant matter within their surroundings and unpredictable intra-actions between human and non-human actants emerge. Embracing a diffractive stance, influenced by Clark (2023) and Hackett (2021), I have pointed to pivotal moments from my field notes, revealing the significance of 'slow' spaces and 'slow' learning.

One of the dominant elements of this chapter is the recurrent theme of secret spaces emerging away from the adult gaze. These concealed environments appear to play a crucial role in nurturing vitality and agency. The hidden spaces, whether behind shrubs or tucked away behind furniture, serve as ‘safe’ spaces for spontaneous exploration. They not only provide seclusion but also create multi-dimensional events where the boundaries between space, self, and matter become fluid and interwoven.

Within these secret spaces, the relationality between the child and the material environment is paramount, fostering a dynamic movement that seems to intensify vital energies that grow, peak and dissipate organically. These spaces also act as springboards for spontaneous exploration, free from the constraints of adult expectations. Luca's most engaged moments occur when hidden and free from adult intervention, Ava’s when she is out of sight behind the shelves and Finlay and Olivia when tucked into the secluded block area. The diffractive analysis of events described in this chapter deepens points made in the previous chapters about the relational and delicate balance between school structures, the affordances of environments (inside and outside) the classroom and how these intra-act with children’s ongoing movements. The role of secret spaces beyond the adult gaze emerges as a vital and recurring element of observations of children in Reception classroom, suggesting how secluded places can intensify children’s abilities to become absorbed in sustained flows. Secluded spaces therefore might be seen as important learning spaces.

Chapter Six - Entangled Insights

This final chapter will present findings that address each research question in turn. The subsequent section relates the findings to the literature reviews presented in chapters 4 and 5 and outlines the study's contribution to the field of childhood studies. Reflections on the research process, including ethics, follow. Finally, recommendations for policy and reflections about my positionality will be addressed.

The research questions are:

1. What more comes into view when concepts from New Material Feminisms are used to observe classroom life?

2. What disrupts children's self-initiated and directed play?

3. What kinds of learning related to playing takes place (sometimes outside of the teachers' awareness)?

Each of these questions will be addressed in turn.

RQ 1: What more comes into view when concepts from New Material Feminisms are used to observe classroom life?

I will refer back to the six summary sections of each vignette in chapters 4 and 5 to outline teachers' actions and perspectives and then what comes into view when concepts from New Material Feminist scholars are diffracted beside accounts of events constructed from field notes.

The six vignettes in chapters 4 and 5 give an insight into how the teachers (and other adults) responded to the intra-action of children who had unfettered access to the classroom environment and could become engaged in unencumbered intra-actions with the vibrant matter surrounding them. As has already been outlined in each of the vignettes, the teacher appears to perceive the children's behaviour as either off task, irrelevant, or outside of the expected behavioural norms or prescribed classroom behaviour code. This research shows that this interpretation of classroom events has arisen as a result of practitioners being caught in a very particular policy language and culture that permeates every aspect of their profession and makes it virtually impossible to have the time, support or opportunity to take a step back from the frenetic pace of the improvement agenda and see play differently.

If we apply a New Material Feminist lens to those same classroom events, then a complex, intricate, and powerful world of learning and relational dynamics unfolds that emphasises the entangled relationships that exist among space, objects, and embodied experiences, further revealing opportunities for transformative learning experiences. Concepts that emerged from the diffraction of the field notes included: worlding (pg. 92, 93, 94, 107,130,165, 182, 183); the agency of objects (pg. 85, 88, 92, 94, 105,130,); spatial dynamics (including hidden spaces) (pg. 93, 164, 172, 184); non-verbal, or more than verbal communication (pg. 75, 86, 89, 92, 138); relational dynamics (pg. 66, 93); embodiment (pg. 70, 100, 101, 159, 163); affect (pg. 62, 65, 69, 86, 95, 105, 116, 139,); enchantment (pg. 71, 90, 96, 100, 108, 141, 142, 148) and vitality (pg. 65, 69, 79, 84, 90, 99, 106, 115, 122, 132). The following section illustrates some of these concepts.

The vignettes presented in Chapter 4 clearly show what happens when the teacher's agenda stops or diverts children's immersive play. In contrast, Chapter 5 gives valuable insights into how children can become completely immersed in the worlds they create. Once they enter that immersive state, they have a vast capacity to maintain and extend it. If practitioners were alerted to the existence of these complex states of being that children can assume during play and given the knowledge to translate what they saw differently, they could facilitate the perpetuation of the vital energy for longer, more impactful periods of time. Concepts like the ones mentioned previously in this section are already apparent in the children's play; they are just not yet seen or valued by the teacher.

The boys' engagement with the wooden blocks, ramps, and cars in the first vignette of Chapter 4 (pg. 64) vividly illustrated the affordance of matter (Bennett, 2010).
The boys also seemed to make some deliberate choices while also being affected by the objects and the space in a collective endeavour, finding enjoyment in their worlding (Manning, 2014). The confined play space formed the boundaries of their world, where spatial constraints both challenged and inspired their creativity. While co-creating their shared world and seamlessly moving between individual play and collaboration, each of the boys maintained autonomy within their interactions. It was apparent from the boys' observed experiences during this intra-action that they could utilise the vital energy of their play to facilitate moments of awe, wonder, and enchantment. The play was kept vibrant and alive by the most minor and seemingly most insignificant of actions or moments, like the nod of a head, a facial expression, a bodily shift or an almost inaudible utterance.

RQ 2: What disrupts children's self-initiated and directed play?

The vignettes diffracted through New Material Feminist concepts reveal tensions between adult interventions and the children's immersive experiences. New Material Feminist concepts draw attention to the entanglements of human and non-human agencies and enable a reconceptualisation of the Reception classroom as a dynamic, co-constituted space, where the materiality of objects, time and uninterrupted play is acknowledged as integral to vital effect.

Vignettes 1-6 reveal that teachers often interrupted children's engrossed activity. Their interventions included the use of an authoritative voice (pg.75, 89, 104, 118,); a seeming need to adhere to a timetable (pg. 80, 81, 120, 172); and their seeming need to be tethered to predetermined outcomes (pg. 68, 80, 99 ,138).
Other aspects interrupted the flow of play that related to the affordances of materiality and movement of objects (pg. 77, 84, 95, 115, 128), sound (pg. 74, 82, 83, 89, 124) and space (pg. 63, 66, 70, 84, 93, 99). The following section illustrates some of these.

On page 72, vignette one initially begins with two boys engaged in play; their flow is momentarily broken when more children join in their game. As the intra-action reaches a

crescendo, Mrs. James interrupts the boys' immersive experience, calling over to them to ask them to stop firing the cars up the ramps that they have constructed.
Similarly, on page 96, Mrs Simms attempts to control Alfie's play by using her voice to call over to him, imposing a structure that has been determined by formal learning outcomes linked to formal summative assessment. Eventually, when this does not work, she uses her physicality to remove him from the space altogether.
In contrast, in vignette four beginning on page 132, it is not the adult but the objects that disrupt the event. The noise that the bricks in Finlay and Olivia's tower made when they hit the floor was loud enough that the adult stopped to comment, and the other children clapped and cheered. In vignette six beginning on page 166, Luca shows the beetle he has found to the first two children he encounters after his discovery. However, the adult's questioning and request to return the beetle to where he found it momentarily stops the vital energy of his play.

RQ 3: What kinds of learning related to playing takes place outside of the teachers' awareness?

To answer the question, 'What kinds of learning related to playing takes place outside of the teachers' awareness?' Learning related to playing outside the teacher's awareness encompasses intricate entanglements between children, materials, and spaces. This view of learning includes the more than human connections that children spontaneously make, including the transcendence of language, relationality through collaboration and hidden learning, most of which, as this research has shown, takes place outside the teacher's gaze.

The opportunities for learning were contained in the field notes presented as snapshots of when children became absorbed as if in the midst of creating elongated engagements with all manner of matter. During these periods of extended engagement, they were able to demonstrate a plethora of examples of hidden learning, some of which are highlighted here; non-verbal learning (pg. 66, 91, 110, 138, 155); moments of enchantment (pg. 95, 107, 130, 140); opportunities to engage in shared milieu (pg. 92, 189) relationality through collaboration (pg. 92, 182, 183); intra-action (pg.72, 85, 102, 127, 139) and embodied experiences and connections (pg.71, 77, 107, 119, 133)

A critical thread that arose from my observations of children during this study was how bodily movements, facial expressions, and sensory engagement embody a form of co-being that transcends language. This non-verbal dimension contributed to the affective landscape, adding layers to the complex interplay of vital energies.

Exploring non-verbal communication within the observed interactions provides a nuanced understanding of how children express themselves and engage with their environment. In these instances, language extends beyond spoken words, becoming a rich tapestry of bodily movements, gestures, facial expressions, and other sensory cues.

In vignette one on page 73, a rich tapestry of learning unfolds through the boys' self-initiated and directed play. The boys immerse themselves in events, navigating intricate relationalities with elements like ramps, blocks, cars, and their peers. These micro-moments of enchantment contribute to the overall learning fabric as children engage in affective patterning, building, and transferring energy among themselves.

As the boys intra-acted with the cars, ramps and bricks, we saw them exercise agency and autonomy in making deliberate choices, demonstrating a shared milieu where individual preferences and collaboration coexisted. Examples of relationality through collaboration became apparent as the boys immersed themselves in constructing ramps using blocks and negotiated the ownership of specific toy cars. This collaborative endeavour showed the power of relational learning, where silent, shared decision-making processes intertwined with the complex negotiation of social relationships and shared meanings.

Similarly, in the second vignette on page 95, Alfie's interaction with the dinosaurs exemplified intra-action, where both child and object mutually influenced and shaped each other's actions, creating meaningful experiences.

In the fourth vignette, which begins on page 132, we can see the development of a pattern of relationality through shared engagement, further highlighted when Finlay and Olivia collaboratively collect and stack wooden blocks. They have a tactile intra-action that goes beyond spoken language. This illustrates a form of non-verbal co-regulation and contributes to generating vitality energy and their shared engagement.

When children experience intense moments of absorption in their play events, the learning is particularly impactful or meaningful to them, often leading to moments of enchantment, some lasting for a short moment and others sustained for a much extended period.

New Material Feminist perspectives highlight the dynamic relationships and agential roles of non-human entities in shaping children's learning experiences. Recognising the affective dimensions, agency within vibrant matter, and the potential for enchantment in children's play opens up new possibilities for pedagogical approaches that go beyond traditional learning outcomes. This research shows that learning in the Reception classroom is often quantified through measurable outcomes and predefined objectives. This creates a culture where equally valuable, often less visible, forms of learning that occur organically through play may be overlooked or go unseen.

This transformative perspective, diffracted through New Material feminism, brings to light the power dynamics within the Reception classroom. It underscores the importance of recognising the interplay between space, objects, and children for fostering vital energy and powerful learning, often hidden beneath the surface of immediate awareness and conventional expectations.

It is clear from the research presented that a New Material Feminist lens reveals powerful and impactful learning, much of which often exists outside of the teacher's gaze. This perspective has helped reframe thinking about the agency of materials and objects and their role as 'vibrant' agents in children's play, taking an active role in shaping learning. The research has shown that if educators could recognise the potential and liveliness of matter, seeing materials as active contributors to dynamic learning, they would be able to provide richer, more holistic and effective environments for children to thrive in.

This approach invites a shift from a more rigid adult-controlled framework to one that recognises and celebrates the agentic capacities of children and non-human elements, fostering richer possibilities for vital engagement and transformative learning experiences.

It is almost impossible for practitioners to have the capacity to change their gaze if the policy that they are saturated in does not change first, and I will discuss this in the coming section. Practitioners must be enabled to see another version of the child, other than an empty vessel waiting to be filled with knowledge by an adult.

In the context of a 'vital' learning event, a child is not a singular, solid and separate being in the milieu they get drawn or immersed into. Their 'beingness' is multiple and infinite. They have multiple possible identities and exponential potential.

Contribution to the Field

Next follows a section that outlines the contribution this research has made to early childhood education and New Material Feminist studies.

Drawing on the work of Manning (2013, 2016) and Lenz Taguchi (2011), this study reveals how agency, autonomy, and creativity emerge when children are freed from a culture of compliance where adult-directed, outcome-driven activities often hinder their immersion in the transformational potential of the more-than-human. For instance, the research illustrates how theoretical concepts such as Barad's (2007) intra-action and material agency can illuminate everyday classroom intra-actions, revealing complex dynamics that might otherwise go unnoticed.

The study provides an exploration of how children experience their learning spaces, uncovering the existence and patterning of vital energy in their everyday play. By attuning to the subtle dynamics and flows of affect within classroom environments, this research sheds light on often overlooked aspects of children's experiences. Extending Bennett's (2010) notion of enchantment, as elaborated by Wylie (2009), the study shows that transformative moments can emerge not only from states of elation or wonder but also from experiences of sadness or despair. This attention to the vitality of children's play challenges conventional notions of learning outcomes and highlights the importance of creating environments that foster such vital engagements.

This work examines the affordances that arise when playful events are analysed and diffracted through a New Material Feminist lens. By refracting classroom interactions through concepts such as intra-action, materiality, and agency, the study reveals new insights into children's spontaneous activities. Drawing on Ingold's (2000) concept of

'enskillment', the research demonstrates how children engage with vibrant matter in their surroundings in a dynamic and embodied manner during moments of uninterrupted spontaneous creative activity. This approach encourages unpredictable intra-actions between human and non-human actants, demonstrating the contribution of 'thing power' (Bennett, 2010) in children's dynamic assembles.

The research illuminates 'vital affect, and affective experiences in early childhood education that are often not noticed by teachers. By foregrounding the role of affect this study challenges traditional conceptions of education as purely cognitive or academic and expands the concept of learning to suggest the importance of the children's interests and capacities to become deeply engaged in activities with other and with all manner of matter. It builds on the work of Osgood and Andersen (2019) and Haraway (2016), showing how concepts of affect, materiality, and worlding occur regularly in Reception classrooms. Through detailed observations and analysis, the study reveals how children engage in complex thinking and social dynamics when undertaking spontaneous, non-teacher directed activities, making a multiplicity of powerful connections that positively impact their learning, well-being, and engagement and expand concepts of play.

This thesis repositions the child as a vibrant 'force' within the educational landscape, actively intra-acting with objects and spaces. This conceptualisation challenges traditional notions of childhood development, emphasising the fluid, dynamic nature of identity formation through ongoing interactions with the material environment. It builds on the contributions of Thiel and Jones (2017) and Otterstad (2019), who employ New Material Feminist concepts grounded in the theories of Barad (2007), Lenz Taguchi (2017), and Haraway (2014). Their work extends our understanding of children's meaning-making, affect, materiality, and worlding, pushing us to reconsider the intentionality behind how young children construct meaning from their intra-actions with their surroundings. By recognising children as active co-creators of their educational experiences, this research advocates for a more inclusive and empowering approach to early childhood education.

Next, there follows a section that explores policy reflections and recommendations, followed by reflections on the method of diffraction and the ethics of the study, and finally, a statement of positionality.

Policy Reflections and Recommendations

The current Early Years Foundation Stage policy framework does not consider the entanglement of human and non-human elements of the educational experience that are important in the classroom events I have witnessed and recorded in my study. This study calls for a re-evaluation of current educational thinking and policy frameworks, emphasising the urgency of adopting a new theoretical framework influenced by scholars such as Stern (2012), Bennett (2012), and Taguchi (2017). Although this is the ideal and much-needed outcome, given the current agreed policy and the time required for significant change, there is little chance of the policy landscape making any significant shift in the immediate future. However, debate around shifting the view of the child and learning entrenched dualisms between human and non-human elements to a New Material Feminist view of the child as learning as not static, but constantly emerging through repeated entanglements with space and matter would begin to create a culture change wherein matter and meaning are co-constituted, challenging entrenched dualisms between human and non-human elements, and recognising the generative potential inherent in children's spontaneous activities during play.

Ultimately, this thesis advocates for a departure from reductionist approaches that artificially separate the human experience from the material conditions of learning. Instead, it calls for a more dynamic and reflexive approach that values the entanglement of human and non-human elements in the educational experience. I have referenced the work of Boldt (2020) and Stern (2012) in my writing to support me in articulating a different view of learning. I join Boldt in advocating for a perspective that acknowledges the significance of embodied identities in shaping students' expressions of vitality within the classroom. Rather than focusing on cognitive and language-oriented approaches to learning, children's physical experiences of the spaces they inhabit should play a critical role in their education, moving

beyond traditional markers of academic achievement and valuing each child's individual embodied experiences.

If we created policy using a New Material Feminist lens that recognised the value of the non-human in children's learning experiences, then this would have a significant impact on practitioners. Not only would they be aware of the powerful and often unseen material-semiotic entanglements in their learning spaces. They would practice in a culture that valued and promoted them. This would relieve the pressure to achieve outcome-driven targets through predetermined tasks and heavily timetabled activities historically based on Government agenda instead of authentic child development.

Positionality

One of the most surprising yet impactful processes during this project was the shift in my positionality as both an educator and a researcher. It has at times, been enlightening, profound as well as uncomfortable, unnerving, and slow.

After 33 years of working in a diverse range of early childhood settings, I was unaware of just how deeply entrenched some of my pedagogy, opinions and prejudice were. I would have described myself as a progressive and subversive practitioner at the beginning of this process. Whilst there would have been true elements of that statement, it was only when I began to immerse myself in the world of New Material Feminist thinking and writing that I could hold up a mirror to my professional self and challenge some of those beliefs.

A strength of this research process is that it took place over a long period. As the researcher, this allowed me time to re-train myself to look differently at children's play and the environments that practitioners created for them to play in. In the early stages of my research, I moved between immersing myself in New Material Feminist literature, observing children in their everyday play, writing about what I saw, reading more, and then re-drafting what I had written. It gave me a new perspective on what was happening in Reception classrooms. It gave me insight into the journey that practitioners would have to embark on to reframe their practice, which ultimately changed the research project's design.

Although there is much that I recognise about the practitioner who began this research journey, there is also a great deal that is new. My aim now is to build on the knowledge that

I have acquired, and my understanding of the principles of New Material Feminism, further and use it to empower practitioners to shift their gaze to see and celebrate the more-than-human entanglements that take place in Reception classrooms.

References

Alexander, R. (2000). *Culture and Pedagogy: International Comparisons in Primary Education*. Malden, MA: Blackwell.

Anderson, B., and Harrison, P. (2010). "The Promise of Non-Representational Theories." In *Taking-place: Non-Representational Theories and Geography*, 1-36. Farnham: Ashgate.

Anning, A., and Edwards, A. (eds) (2006). *Promoting Children's Learning from Birth to Five: Developing the New Early Years Professional*. Milton Keynes: Open University Press.

Aslanian, T. (2017). Ready or not, here they come! Care as a material and organizational practice in ECEC for children under two. Global Studies of Childhood. 7. 323-334. 10.1177/2043610617747979.

Baldock, P., Fitzgerald, D. and Kay, J. (2009). *Understanding early years policy,* (2nd edition) London, Sage.

Barad, K. (1998). *Getting Real: Technoscientific Practices and the Materialization of Reality. In: Differences: A Journal of Feminist Cultural Studies*, Vol. 10, no. 2, pp 87-128

Barad, K. (2007). *Meeting the Universe Halfway: Quantum Physics and the Entanglement of Matter and Meaning*. Durham and London: Duke University Press.

Barad, K. (2012). On Touching: the Inhuman That Therefore I Am. *Differences,* 23, 206-223.

Bartholomaeus, C. (2016). Developmental discourses as a regime of truth in research with primary school students. *International Journal of Qualitative Studies in Education* 29(7): 911–924.

Bennett, J. (2001). *The Enchantment of Modern Life: Attachments, Crossings, and Ethics*. Princeton: Princeton University Press.

Bennett, J. (2010). *Vibrant Matter: A Political Ecology of Things*. Durham and London: Duke University Press.

Bissell, D. (2013). Pointless Mobilities: Rethinking Proximity Through the Loops of Neighbourhood. *Mobilities*. 8. (3). pp. 349-367

Delfin, A. (2020). The discursive and the material in early childhood play: co-constitution of gender in open and subversive spaces. Gender and Education. 33. 1-16. 10.1080/09540253.2020.1786012.

Bone, J. (2018). Ghosts of the material world in early childhood education: Furniture matters. Contemporary Issues in Early Childhood. 20. 146394911774959. 10.1177/1463949117749599.

Boston Change Process Study Group (2018). Moving Through and Being Moved By: Embodiment in Development and in the Therapeutic Relationship, *Contemporary Psychoanalysis*, 54:2, 299-321, DOI: 10.1080/00107530.2018.1456841

British Educational Research Association (2018). *Ethical guidelines for educational research*. 4th edition. Available at: https://www.bera.ac.uk/researchers-resources/publications/ethical-guidelines-for-educational-research-2018 (accessed 28th Jan 2024).

Brooker, L. (2005). Learning to be a child: cultural diversity and early years ideology, in: Yelland, N. (ed.) *Critical issues in early childhood education*. Maidenhead: Open University Press, pp. 115-130.

Burnett, C. (2017). Acknowledging and interrogating multiplicities towards a generous approach in early literacy innovation and intervention evaluations. *Journal of Early Childhood Literacy*, *17.4*, pp.552-550

Butler, J. (1990). *Gender Trouble: Feminism and the Subversion of Identity*. London: Routledge.

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

Central Advisory Council for Education (1967) *Children and their Primary Schools* ('The Plowden Report'), London: HMSO.

Clark, A. (2023) *Slow Knowledge and the Unhurried Child – Time for Slow Pedagogies in Early Childhood Education*. London: Routledge.

Cuffaro, H. K. (1995) *Experimenting with the world: John Dewey and the Early Childhood Classroom*. New York, NY: Teachers College Press.

Dahlberg, G. Moss, P and Pence, A (1999). *Beyond Quality in Early Childhood Education and Care* 1st edition. London: Routledge.

Dahlberg, G. Moss, P and Pence, A (2007). *Beyond Quality in Early Childhood Education and Care* 2nd Edition. London: Routledge.

David, T. (1993) 'Educating children under 5 in the UK', in David, T., (ed.*), Educational Provision for Our Youngest Children*, European Perspectives. London: Paul Chapman Publishing.

Deleuze, G. and Guattari, F. (2013). *A Thousand Plateaus*. Bloomsbury Revelations. London: Bloomsbury Academic.

Deleuze, G., and Guattari, F. (2004). *A Thousand Plateaus: Capitalism and Schizophrenia*. London:Bloomsbury Publishing.

DCSF (Department for Children, Schools and Families) (2007). *The Children's Plan: Building Brighter Futures*. London: HMSO.

DfEE (Department for Education and Employment) (1997). *Tomorrow's Future: Building a Strategy for Children and Young People*. London: Department for Education and Employment.

DfES (Department for Education and Skills) (2001). *Neighbourhood Nurseries Initiative* (NNI): Prospectus. London: DfES.

DfES (Department for Education and Skills) (2003). *Every Child Matters*. Nottingham: DfES Publications.

DfES (Department for Education and Skills) (2004). *Every Child Matters: Change for Children*. Nottingham: DfES Publications.

DeVries, R. (1998) Early Education and Piagetian Theory. In: Gallagher, J.M., Easley, J.A. (eds) *Knowledge and Development*. pp.295-309.Springer, Boston, MA. https://doi.org/10.1007/978-1-4684-3402-6_3

Dewey, J. (1916). *Democracy and Education: An Introduction to the Philosophy of Education*. New York: The Macmillan Company.

Fenwick, T., Edwards, R. and Sawchuk, P. (2011) *Emerging Approaches to Educational Research: Tracing the Socio-Material*. London: Taylor & Francis. Retrieved November 29 2023 (http://www.123library.org/book_details/?id=83416).

Foucault, F. (1975). *Discipline and Punish: The Birth of Prison*. London: Peregrine Books.

Fogel, A., and Garvey, A. (2007). Alive Communication. *Infant Behaviour Development.* 30, 251-257

Gallacher, L. A. (2006). *Block play, the sand pit and the doll corner: the (dis)ordering materialities of educating young children*, online papers archived by the Institute of Geography, School of Geosciences, University of Edinburgh.

Galton, M., Simon, B. and Croll, P. (1980). *Inside the Primary Classroom*, London: Routledge.

Gillard, D. 'The Hadow Reports: an introduction', *The encyclopaedia of pedagogy and informal education*, www.infed.org/schooling/hadow_reports.htm. (accessed 28th Jan 2024)

Goldstein, H., Moss, G., Sammons, P., Sinnott, G. and Stobart, G. (2018). A *Baseline Without Basis: The Validity and Utility of the Proposed Reception Baseline Assessment in England*. London: British Educational Research Association. Available at: www.bera.ac.uk/researchers-resources/publications/a-baseline-without-basis (accessed 28th Jan 2024)

Grosz, E. (2008) *Chaos, Territory, Art: Deleuze and the Framing of the Earth*. New York: Columbia University Press.

Hackett, A. (2021). *More-Than-Human Literacies in Early Childhood*. London: Bloomsbury.

Hackett, A., and Rautio, P. (2019). Answering the world: young children's running and rolling as more-than-human multimodal meaning making, *International Journal of Qualitative Studies in Education*, 32:8, 1019-1031, DOI: 10.1080/09518398.2019.1635282

Hargraves, V. (2019) *The Posthuman Condition of Ethics in Early Childhood Literacy: Order-in(g), Be(E)ing Literacy. In C. Kuby, K. Spector and J. Thiel (eds.)* (pp.187–200). New York: Routledge.

Hennessy, E., Martin, S., Moss, P., and Melhuish, P. (1992). *Children and Day Care: Lessons from Research*. London: Paul Chapman Publishing.

HM Government (2006). *Raising Standards – Improving Outcomes Statutory Guidance: Early Years Outcomes Duty*, Childcare Act 2006. Available at:

https://dera.ioe.ac.uk/6889/5/Raising%20Standards%20-%20Improving%20Outcomes%20-%2003%20Dec.pdf (accessed 28th Jan 2024)

Hickey-Moody, A., Palmer H and Sayers, E (2016). Diffractive pedagogies: dancing across new materialist imaginaries, *Gender and Education*, 28 (2), 213-229, DOI: 10.1080/09540253.2016.1140723

Horton, J and Kraftl, P. (2006). What else? Some more ways of thinking and doing 'Children's Geographies'. *Children's Geographies* 4:238-242

Hultman, K., and Taguchi H. L. (2010) Challenging Anthropocentric Analysis of Visual Data: A Relational Materialist Methodological Approach to Education Research. International *Journal of Qualitative Studies in Education* 23 (5): 525 – 542.

Ingold, T. (2000). *The Perception of the Environment: Essays on Livelihood, Dwelling and Skill*. Routledge, New York.

Ingold, T. (2007). *Lines: A Brief History*. London: Routledge.

Ingold, T. (2013) *Making: Anthropology, Archaeology, Art and Architecture*. Oxon: Routledge.

Isaacs, S. (1930). *Intellectual Growth in Young Children*. London: Routledge.

Isaacs, S. (1932). *The Children We Teach*. London: University of London Press.

Isaacs, S. (1933). *Social Development in Young Children.* London: Routledge and Kegan Paul.

Juutinen, J., and Viljamaa, E. (2016). A Narrative Inquiry about Values in a Finnish Preschool: The Case of Traffic Lights. *International Journal of Early Childhood* 48. 10.1007/s13158-016-0165-1.

Laming, L (2003). *The Victoria Climbie Inquiry*. London: HMSO.

Laming, L (2009). *The Protection of Children in England: A Progress Report*. London: Stationery Office.

Laws, C. and Davies, B. (2000). Poststructuralist theory in practice: Working with "behaviourally disturbed" children, *International Journal of Qualitative Studies in Education*, 13(3), 205 – 221.

Lefebvre, H. (2013). *Rhythmanalysis: Space, Time and Everyday Life*. New York: Bloomsbury Academic.

Lenz Taguchi, H. (2010). *Going Beyond the Theory/Practice Divide in Early Childhood Education – Introducing an Intra-Active Pedagogy*. New York: Routledge.

Lenz Taguchi, H. (2013). Images of thinking in feminist materialisms: ontological divergences and the production of researcher subjectivities, *International Journal of Qualitative Studies in Education*, 26:6, 706-716, DOI: 10.1080/09518398.2013.788759

Lenz Taguchi, H. (2014). *New Materialisms and Play*. SAGE Publications Ltd, London, https://doi.org/10.4135/9781473907850

Macbeth, D. (1990). Classroom Order as Practical Action: The Making and Un-Making of a Quiet Reproach, British Journal of Sociology of Education, 11:2, 189-214, DOI: 10.1080/0142569900110205

MacLure, M., Jones, L., Holmes, R. and MacRae, C. (2012). Becoming a problem: behaviour and reputation in the early years classroom, *British Educational Research Journal,* 38:3, 447-471.

MacLure, M. (2013) Towards an Ethics of Entanglement: Thinking with Diffractive Pedagogies. *Educational Philosophy and Theory*, *45*(4), 392–405.

MacLure, M. (2013). The Wonder of Data. *Cultural Studies ↔ Critical Methodologies*, *13*(4), 228–232. https://doi.org/10.1177/1532708613487863

MacRae, C. (2012). Encounters with a Life(less) Baby Doll: Rethinking Relations of Agency through a Collectively Lived Moment. *Contemporary Issues in Early Childhood*, 13 (2): 120-31.

Manning, E. (2009). *Relationscapes: Movement, Art, Philosophy.* Massachusetts: MIT Press

Manning, E. (2014) Wondering the World Directly – or, How Movement Outruns the Subject. *Body and Society Special Issue, Rhythm, Movement, Embodiment* 20(3–4): 162–188.

Massumi, B. (2002) *Parables for the Virtual: Movement, Affect, Sensation.* Duke University Press.

Massumi, B. (2011). *Semblance and Event: Activist Philosophy and the Occurrent Arts*. The MIT Press.

Mazzei, L and Jackson. (2016). Voice in the agentic assemblage. Educational Philosophy and Theory. 49. 1-9. 10.1080/00131857.2016.1159176.

McPhie, J., and Clarke, D. A. G., (2015). A Walk in the Park: Considering Practice for Outdoor Environmental Education Through an Immanent Take on the Material Turn, *The Journal of Environmental Education*, 46 (4), 230-250, DOI: 10.1080/00958964.2015.1069250

Moyles, J., Adams, S. and Musgrove, A. (2002). Early years practitioners' understanding of pedagogical effectiveness: Defining and managing effective pedagogy. *Education* 3-13. 30. 9-18. 10.1080/03004270285200291.

Moyles, J. (1989). *Just Playing? The Role and Status of Play in Early Childhood Education*. Milton Keynes: Open University Press.

Moyles, J., Adams, S., and Musgrove, A. (2001). *The Study of Pedagogical Effectiveness: A Confidential Report to the DfES*. Chelmsford: Anglia Polytechnic University.

Mulcahy, D. (2019). Pedagogic affect and its politics: Learning to affect and be affected in education. *Discourse*, 40(1), 93-108

Murris, K. (2016). *The Post-Human Child: Educational Transformation Through Philosophy and Picture books*. London: Routledge.

Niccolini, A. (2016). Animate Affects: Censorship, reckless pedagogies, and beautiful feelings. *Gender and Education*, 28(2), 230 – 249

Nutbrown, C. (1999). *Threads of Thinking*. London: Paul Chapman Publishing.

Osgood, J., and Andersen, C. E. (2019). A Feminist New Materialist Experiment: Exploring What Else Gets Produced through Encounters with Children's News Media, *Contemporary Issues in Early Childhood* 20(4):363-380

Osgood, J. (2006). Deconstructing Professionalism in Early Childhood Education: Resisting the Regulatory Gaze. Contemporary Issues in Early Childhood, 7(1), 5-14. https://doi.org/10.2304/ciec.2006.7.1.5

Osgood, J. (2009) Play, Education, and Neoliberalism: A Critical Pedagogy. In M. Edmunds & J. W. Lowe (Eds.), *Global Matters for Non-Governmental Public Action* (pp. 203-217). Emerald Group Publishing Limited.

Osgood, J and Scarlet, R. (2016). 'Reconfiguring 'quality': beyond discourses and subjectivities to matter, bodies and becomings in early childhood education' in G.S.Cannella, M. Salazar Perez, I. Lee. (Eds).

Otterstad, A. M. (2019) What Might a Feminist Relational New Materialist and Affirmative Critique Generate in/With Early Childhood Research? *Qualitative Inquiry*, 25(7), 641–651.

Pugh, G. (ed.) (1996) *Contemporary Issues in the Early Years: Working Collaboratively for Children* (2nd edition). London: Paul Chapman Publishing.

Pacini-Ketchabaw, V., Kind, S., and Kocher, L. (2016). *Encounters with Materials in Early Childhood Education*. London: Routledge.

Palaiologou, I. (2016) 'Children under five and digital technologies: Implications for early years pedagogy', *European Early Childhood Education Research Journal*, 7(3): 1–20.

Pascal, C., and Bertram, T. (2012) 'Praxis, ethics and power: Praxeology as a participatory paradigm for early childhood research', *European Early Childhood Education Research Journal*, 20(4): 477–93.

Penn, H. (1997). *Comparing Nurseries: Staff and Children in Italy, Spain and the UK*. London: Paul Chapman Publishing.

Piaget, J.J. (1948). *The Language and Thought of the Child*. London: Routledge and Kegan

Paul. Piaget, J.J. (1951). *Play, Dreams and Imitation in Childhood*. London: Routledge.

Pink, S. (2011). From embodiment to emplacement: Re-thinking competing bodies, senses and spatialities. Sport. Education and Society. 343-355. 10.1080/13573322.2011.565965.

Procter, L. and Hackett, A. (2017*). Playing with place in early childhood: An analysis of dark emotion and materiality in children's play*. London: Sage.

Pyyry, N. (2014). *The aesthetics of everyday life in the early years: A study of children's everyday engagements with materials*. Doctoral Dissertation, University of Helsinki, Finland.

Pyyry, N. (2017). Thinking with broken glass: Making pedagogical spaces of enchantment in the city, *Environmental Education Research*, 23 (10),1391-1401, DOI: 10.1080/13504622.2017.1325448

Shaw, L. J. (2017). *Heterotopia and hauntings: troubling the spaces and artefacts of early years' education and care in England*, PhD Thesis, Manchester Metropolitan University, England.

Smith, C., and Vernon, J. (1994). *Day Nurseries at the Crossroads: Meeting the Childcare Challenges*. London: National Children's Bureau.

Springgay, S., and Zaliwska, Z. (2016). *Learning to be affected: Matters of pedagogy in the artists' soup kitchen* DOI: 10.1080/00131857.2016.1216385

Stern, D.N. (1985). The Interpersonal World of the Infant: A View from Psychoanalysis and Developmental Psychology (1st ed.). Routledge. https://doi.org/10.4324/9780429482137

Stern, D. (2000). *The Interpersonal World of the Infant: A View from Psychoanalysis and Developmental Psychology*. (2nd ed.) New York: Basic Books.

Stern, D. (2004). *The Present Moment in Psychotherapy and Everyday Life*. New York: W. W. Norton & Company.

Stern, D. (2010). *Forms of vitality: Exploring dynamic experience in psychology, the arts, psychotherapy, and development*. Oxford University Press.

Stern, D. N. (2018). *The Interpersonal World of the Infant: A View from Psychoanalysis and Developmental Psychology* (1st ed.). Routledge. https://doi.org/10.4324/9780429482137

Sylva, K., Melhuish, E., Sammons, P. and Siraj-Blatchford, I. (2001). *The Effective Provision of Pre-School Education (EPPE) Project.* The EPPE Symposium at the British Educational Research Association Annual Conference, University of Leeds, September.

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. 1-21. 10.1080/14681366.2015.1039050.

Taylor, C. A. (2013). Objects, bodies and space: gender and embodied practices of mattering in the classroom, *Gender and Education*, 25 (6), 688-703, DOI: 10.1080/09540253.2013.834864

The Early Years Foundation Stage: Department for Education (2021) Statutory framework for the early years foundation stage. Available at: https://www.gov.uk/government/publications/early-years-foundation-stage-framework--2 (Accessed: 28th Jan 2024).

The Primary School, 1831. Hadow Report.

Thiel, J. J., and Jones, S. (2017). The literacies of things: Reconfiguring the material-discursive production of race and class in an informal learning centre. *Journal of Early Childhood Literacy*, 17(3), 315–335. https://doi.org/10.1177/1468798417712343

UNESCO (2016). *Innovative Pedagogical Approaches and Tools in Early Childhood Care and Education* (EECE) in the Asia-Pacific Region. Available at: https://unesdoc.unesco.org/ark:/48223/pf0000246050 (accessed 28th Jan 2024).

Walkerdine, V., (1984) Developmental psychology and the child-centred pedagogy: the insertion of Piaget into early education. In: Henriques J, Hollway W, Urwin C, et al. (eds)

Changing the Subject: Psychology, Social Regulation and Subjectivity. London: Methuen, pp. 153–202.

Whitty, P; Lysack, M; Lirette, P; Lehrer, J; and Hewes, J, "Passionate About Early Childhood Educational Policy, Practice, and Pedagogy: Exploring Intersections Between Discourses, Experiences, and Feelings...Knitting New Terms of Belonging" (2020). *Publications and Scholarship*. 16.
https://source.sheridancollege.ca/fahcs_publications/16 (accessed 28th Jan 2024)

Wylie, J. (2009). Landscape, absence and the geographies of love. *Transactions of the Institute of British Geographers*. 34. 275 - 289. 10.1111/j.1475-5661.2009.00351.x.

Wyse, D., and Goswami, U., (2008) Synthetic phonics and the teaching of reading. *British Educational Research Journal* 34(6): 691–710.

Appendices

Appendix 1 a – Gatekeeper Information

Date

Ethics Approval Reference

Title of Project: Changing Gaze

Alistair Bryce-Clegg - Manchester Metropolitan University.

What is the reason for this letter?

I would like to invite a teacher in your school to take part in a research project for my doctoral thesis. My name is Alistair Bryce-Clegg, and I am a student at MMU undertaking a doctoral study with the above title.

What is the purpose of the study/rationale for the project?

My research project is to investigate complex relationships children have with environments and how teachers observe children to assess the learning.

What am I asking you to do?

The project will last for 9 months and will be split into 3 phases

First phase

In the first phase of my research, I will ask you to let me undertake some observations in your Reception classroom so I can familiarise myself with the learning environment. I will be looking for moments when children become absorbed in activities and will document in written fieldnotes the objects, spaces and actions involved. I will not write down children's names in my notes and will use pseudonyms instead.

Second phase

The next phase of the study will be a collaboration between the Reception teacher and I where we can share our thoughts and ideas about what we are observing and why

we think specific events are interesting. Sometimes we might be drawn to events in which children are deeply engrossed in activities. If appropriate we will video record some events while keeping the identities of specific children anonymous. In informal discussions we will discuss what we understand as 'best practice' in the Early Years. The teacher will be invited to keep a brief journal or diary to record their thoughts. In this phase data will include recordings of discussions either as audio recordings or as fieldnotes.

Third phase

I will use video footage as the basis for discussions with the class teacher. The discussions will be one-to-one and at times that are convenient to them and will be audio recorded. The aim is to reflect together on 'best practice' and widen our thinking.

I am asking you to allow me to come into your school and work with one of your Reception teachers to help me with all of the above.

How will I use the Information?

I am aware of the ethical issues that can arise from using video recordings of classroom events that include children. However, the aim of videoing selected classroom events is not to focus on individual children, but to provide stimulus material to initiate discussion. When we view the video extracts, we will work in conditions that will anonymise the footage so as to obscure specific children's faces where possible.

The video extract will be kept private on a locked dedicated lap-top and will only be viewed by me and the teacher. The video footage will be destroyed once we have used extract as stimulus for our discussions.
There are ethical issues that must be considered when collecting visual data on young children.

With regard to consent, informed consent will be gained from the parents/guardians of the children. The children's consent will never be presumed, and measures will be put in place to involve them in the decision-making processes throughout the research. Their consent will always be seen as provisional and will need to be regularly verified. Protocols surrounding data anonymity will be followed in line with University guidance. Whilst anonymising written data can be simple, anonymising children's images can pose a greater difficulty. Image manipulation software will be used to anonymise children's faces for any images that will be viewed by anyone other than the researcher. Sketches of images may also be used. All video recordings will be destroyed as soon as they have been used as stimulus response material for teacher-research discussions. Video extracts will only be viewed by me and the teacher.
All of the ethical processes for using video recordings as set out by the university will be documented and adhered to.

Will the name of my organisation taking part in the study be kept confidential?

The name of your school will be kept completely confidential as will that of the teacher taking part.

All personal data will be saved to the MMU One Drive which is password protected Access to personal data will be authorised to representatives from the University for study related monitoring, audits and assessments.

The participant's and school's identifying information will be replaced by pseudonyms.

Once written confirmation is obtained that the research data can be legally shared, all personal data will be anonymised with no identifiers of the participant or their school.

The process for sharing the data will be in line with the guidance of the University. This will be via Share Point or One Drive.

I will limit access to data to a minimum of individuals (the classroom teacher and myself) in line with the University's quality control, audit and analysis procedures. I do not intend to share any personal data.

I will ensure that the correct permissions have been sought via the participant consent form.

I will record any online discussions and then upload the content to MMUTube or Stream to be captioned. I will then store the resulting transcript on my University OneDrive.

For further information about use of your personal data and your data protection rights please see the University's Data Protection Pages.

What will taking part involve? What should I do now?

If you would be willing for your school to take part in this project then please:

- Sign and return the **Consent Form** provided

This study has received ethical approval from MMU's Research Ethics Committee *(insert REC reference number and date of approval)*

Contact Details of Researcher

Should you have any comments or questions regarding this research, you may contact me on the following email address

Alistair Bryce- Clegg - alistair.w.bryce-clegg2@stu.mmu.ac.uk

If you have any concerns regarding the personal data collected from you, our Data Protection Officer can be contacted using the legal@mmu.ac.uk e-mail address, by calling 0161 247 3331 or in writing to: Data Protection Officer, Legal Services, All Saints Building, Manchester Metropolitan University,

Manchester, M15 6BH. You also have a right to lodge a complaint in respect of the processing of your personal data with the Information Commissioner's Office as the supervisory authority. Please see: https://ico.org.uk/global/contact-us/

THANK YOU FOR CONSIDERING PARTICIPATING IN THIS PROJECT

Appendix 1b – Gatekeeper Consent Form

Manchester Metropolitan University

Consent Form

Title of Project: Changing Gaze

Alistair Bryce-Clegg - Manchester Metropolitan University.

Please tick to confirm your understanding of the study and that you are happy for your school to take part and your facilities to be used to host parts of the project.

My research project is to investigate complex relationships children have with environments and how teachers observe children to assessment learning.

1. I confirm that I have read and understand the information provided for the above study. I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily. ☐
2. I understand that participation of our school in the research is voluntary and that we are free to withdraw at any time, without giving a reason and that this will not affect legal rights. ☐
3. I understand that any personal information collected during the study will be anonymised and remain confidential. ☐
4. I agree for our organisation and students/members to take part in the above study. ☐
5. I agree to conform to the data protection act ☐

Name of Gatekeeper (Headteacher):

Date: Signature:

Name of Researcher:

Date: Signature

Appendix 1c – Parent Consent Form

Manchester Metropolitan University

DATE
Ethics Approval Code

Parent Consent Form

Dear Parent/Guardian

Your school has agreed to take part in a research project with Manchester Metropolitan University. My name is Alistair Bryce-Clegg, and I will be carrying out the research.

What is the purpose of the study/rationale for the project?

My research project is to investigate complex relationships children have with environments and how teachers observe children to assess their learning.

My research primarily focusses on the teacher in your child's class, but together we will be observing your children at play, making notes about them and potentially video and audio recording their interactions with the environment.

What happens to any information that you record about my child?

In any written recording, children's names will not be used. Pseudonyms will be used instead.

The aim of videoing selected classroom events is not to focus on individual children, but to provide material for discussion with the teacher. The videos will only every be viewed by me and your child's teacher and will be destroyed immediately after discussion.

Videos will be stored on the MMU One Drive which is secure and password protected. No audio or video recording will be kept beyond the duration of this project.

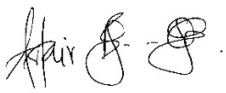
All the ethical processes for using video recordings as set out by Manchester Metropolitan University will be documented and adhered to.

All data (excluding audio and video recordings, which will be deleted) will be saved on the MMU Research Data Storage (RDS) platform which provides a secure and accessible data storage platform for active research data.

The service is provided by EPrints and backed up by Arkivum who offer a 100% guarantee that files will not be lost or corrupted.

(For further information about use of personal data and data protection rights please see the University's Data Protection Pages.)

Yours sincerely,



Alistair Bryce-Clegg

Manchester Metropolitan University

Title of Project: Changing Gaze

Name of Researcher: Alistair Bryce-Clegg

Participant Identification Code for this project:

Please initial box

1. I confirm that I have read and understood the information sheet dated …. for the above project. ☐
2. I understand that my child's participation is voluntary and that I am free to withdraw permission at any time without giving any reason to the named researcher. ☐
3. I understand that my child's responses may be recorded and used for analysis **only** for this research project. ☐
4. I understand that my child will remain anonymous. ☐
5. I agree for my child to take part in the above research project. ☐

Name of child

_____

Name of Parent/Carer Date Signature

_____ _____

Please sign and return to school. Thank you.

Appendix 1d – Participant Information

Manchester Metropolitan University

Participant Information Sheet

Date

Ethics Approval Number

Changing Gaze - Recognising the More-Than-Human in Early Years

1. Invitation to research

I would like to invite you to take part in a research project for my doctoral thesis. My name is Alistair Bryce-Clegg and I am a student at MMU undertaking a doctoral study with the above title. My research project is to investigate complex relationships children have with environments and how teachers observe children to assessment learning.

2. Why have I been invited?

I am particularly looking for Reception teachers to take part in my research as I am interested in their view about how the Early Learning Goals impact on their practice.

3. Do I have to take part?

It is up to you to decide. We will describe the study and go through the information sheet, which we will give to you. We will then ask you to sign a consent form to show you agreed to take part. You are free to withdraw at any time, without giving a reason.

4. What will I be asked to do?

The project will last for 8 months and will be split into 3 phases

First phase

In the first phase of my research I will ask you to let me undertake some observations in your classroom so I can familiarise myself with the learning environment. I will be looking for moments when children become absorbed in activities and will document in written fieldnotes the objects, spaces and actions involved. I will not write down children's names in my notes and will use pseudonyms instead.

Second phase

The next phase of the study will be a collaboration between you and I where we can share our thoughts and ideas about what we are observing and why we think specific events are interesting. Sometimes we might be drawn to events in which children are deeply engrossed in activities. If appropriate we will video record some events while keeping the identities of specific children anonymous. In informal discussions we will discuss what we understand as 'best practice' in the Early Years. You will be invited to keep a brief journal or diary to record

your thoughts. In this phase data will include recordings of our discussions either as audio recordings or as fieldnotes.
Third phase
We will use video footage as the basis for discussions. Our discussions will be one-to-one and at times that are convenient to you and will be audio recorded. The aim is to reflect together on 'best practice' and widen our thinking. On occasion we may meet via a secure online platform at a time that is convenient to you. These discussions will also be audio recorded.
I am aware of the ethical issues that can arise from using video recordings of classroom events that include children. However, the aim of videoing selected classroom events is not to focus on individual children, but to provide stimulus material to initiate discussion. When we view the video extracts, we will work in conditions that will anonymise the footage so as to obscure specific children's faces where possible.
The video extract will be kept private on the MMU One Drive and will only be viewed by you and me. The video footage will be destroyed once we have used extract as stimulus for our discussions.
There are ethical issues that must be taken into account when collecting visual data on young children.
With regard to consent, informed consent will be gained from the parents/guardians of the children. The children's consent will never be presumed, and measures will be put in place to involve them in the decision-making processes throughout the research. Their consent will always be seen as provisional and will need to be regularly verified.
Protocols surrounding data anonymity will be followed in line with University guidance. Whilst anonymising written data can be simple, anonymising children's images can pose a greater difficulty. Image manipulation software will be used to anonymise children's faces for any images. Images will not be viewed by anyone other than the researcher and the teacher. Sketches of images may also be used. All video recordings will be destroyed as soon as they have been used as stimulus response material for teacher-research discussions. Video extracts will only be viewed by you and I and no one else.
All of the ethical processes for using video recordings as set out by the university will be documented and adhered to.

5. Are there any risks if I participate?
There are no risks involved in participation.

6. Are there any advantages if I participate?
The process of being involved in this research project will give you an opportunity to reflect upon and discuss your current practice. You will also be helping to contribute to the wider knowledge of the early years community by allowing your data to be used to strengthen the research.

7. What will happen with the data I provide?
When you agree to participate in this research, we will collect from you personally-identifiable information.
The Manchester Metropolitan University ('the University') is the Data Controller in respect of this research and any personal data that you provide as a research participant.

The University is registered with the Information Commissioner's Office (ICO) and manages personal data in accordance with the General Data Protection Regulation (GDPR) and the University's Data Protection Policy.
We collect personal data as part of this research (such as name, telephone numbers or age). As a public authority acting in the public interest, we rely upon the 'public task' lawful basis. When we collect special category data (such as medical information or ethnicity) we rely upon the research and archiving purposes in the public interest lawful basis.
Your rights to access, change or move your information are limited, as we need to manage your information in specific ways in order for the research to be reliable and accurate. If you withdraw from the study, we will keep the information about you that we have already obtained.
We will not share your personal data collected in this form with any third parties.
If your data is shared this will be under the terms of a Research Collaboration Agreement which defines use and agrees confidentiality and information security provisions. It is the University's policy to only publish anonymised data unless you have given your explicit written consent to be identified in the research. **The University never sells personal data to third parties.**
We will only retain your personal data for as long as is necessary to achieve the research purpose.
All personal data will be saved to the MMU One Drive which is password protected
Access to personal data will be authorised to representatives from the University for study related monitoring, audits and assessments.
The participant's and school's identifying information will be replaced by pseudonyms.
Once written confirmation is obtained that the research data can be legally shared, all personal data will be anonymised with no identifiers of the participant or their school.
The process for sharing the data will be in line with the guidance of the University. This will be via Share Point or One Drive
I will limit access to data to a minimum of individuals (the classroom teacher and myself) in line with the University's quality control, audit and analysis procedures. I do not intend to share any personal data.
I will ensure that the correct permissions have been sought via the participant consent form.
I will record any online discussions and then upload the content to MMUTube or Stream to be captioned. I will then store the resulting transcript on my University OneDrive.
All data will be saved on the MMU Research Data Storage (RDS) platform which provides a secure and accessible data storage platform for active research data.
The service is provided by EPrints and backed up by Arkivum who offer a 100% guarantee that files will not be lost or corrupted.
For further information about use of your personal data and your data protection rights please see the University's Data Protection Pages.

What will happen to the results of the research study?

The results of the research will be included in my EdD dissertation and also used for peer review journals and conference presentation.
Any video or audio data collected will not be included in my thesis, articles or presentations. Any quotes that arose from video or audio discussion will be anonymised.

Who has reviewed this research project?
This application has been reviewed by my supervisors: Prof. Gabrielle Ivinson and Dr. Dominic Griffiths and also the Manchester Metropolitan University Research, Ethics and Governance Committee.
Who do I contact if I have concerns about this study or wish to complain?
If you have any concerns or complaints, please contact:
Alistair Bryce-Clegg – Researcher
alistair.w.bryce-clegg2@stu.mmu.ac.uk

Professor Gabrielle Ivinson – Supervisor
Details
Gabrielle Ivinson

Professor of Education and Community

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Brooks Building room 1.06

53 Bonsall Street

Manchester M15 6GX

Tel 0044(0)161 2472293

g.ivinson@mmu.ac.uk

If you have any concerns regarding the personal data collected from you, our Data Protection Officer can be contacted using the legal@mmu.ac.uk e-mail address, by calling 0161 247 3331 or in writing to: Data Protection Officer, Legal Services, All Saints Building, Manchester Metropolitan University, Manchester, M15 6BH. You also have a right to lodge a complaint in respect of the processing of your personal data with the Information Commissioner's Office as the supervisory authority. Please see:
https://ico.org.uk/global/contact-us/

THANK YOU FOR CONSIDERING PARTICIPATING IN THIS PROJECT

Appendix 1e – Participant Consent Form

Manchester Metropolitan University

CONSENT FORM

Changing Gaze - Recognising the More-Than-Human in Early Years

Participant Identification Number:

		Please tick your chosen answer	YES	NO
1.	I confirm that I have read the participant information sheet version ..... , date ..... for the above study.		☐	☐
2	I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily.		☐	☐
3	I understand that my participation is voluntary and that I am free to withdraw at any time without giving any reason, without my legal rights being affected.		☐	☐
4	I agree to participate in the project to the extent of the activities described to me in the above participant information sheet.		☐	☐
OPTIONAL				
5	I agree to my participation being audio recorded for analysis. No audio clips will be published without my express consent (additional media release form).		☐	☐
6	I agree for any artefacts I create during participation to remain in the possession of the researcher. Identifiable artefacts will not be used in research outputs.		☐	☐
7	I understand and agree that my words may be quoted anonymously in research outputs.		☐	☐
8	I wish to be informed of the outcomes of this research. I can be contacted at: _____		☐	☐
9	I give permission for the researchers named in the participant information sheet to contact me in the future about this research or other research opportunities.		☐	☐
10	I give permission for a fully anonymised version of the data I provide to be deposited in an Open Access repository so that it can be used for future research and learning.		☐	☐

_____	_____	_____
Name of participant	Date	Signature
_____	_____	_____
Name of person taking consent	Date	Signature