

Education, sustainability and intersubjectivity: Exploring the possibility of the emergence of new ways of knowing, being and acting in the world

Submitted by Sarah Siân Chave to the University of Exeter as a thesis for the degree of

Doctor of Philosophy in Education

January 2017

This thesis is available for Library use on the understanding that it is copyright material and no quotation from the thesis may be published without proper acknowledgement.

I certify that all material in this thesis which is not my own work has been identified and that no material has previously been submitted and approved for the award of a degree by this or any other University.

Abstract

In this conceptual thesis I explore a paradox inherent in sustainability, namely that to 'sustain' something it needs to be allowed to emerge into something different than it currently is. Moreover, it is not always knowable in advance what that 'something' will be. I also argue that education is fundamentally about sustainability, as its role is to allow/encourage a human being to emerge into someone different than he/she currently is. I assert, however, that whilst this is education's role, it currently, and paradoxically, works against itself by defining the human subject in advance (as a particular 'ideal' kind of rational autonomous being), hence closing the matter of what a human can grow into before education even starts.

I argue that complexity thinking and what Osberg (2015) calls complexity-compatible thinking, posthumanist/posthuman and feminist thinking provide logics to approach the issue of emergence, including the emergence of what it is to be a human subject. It is through engaging with these logics to keep the abundant possibilities of the future radically open that my thesis makes a contribution to the field of education and sustainability.

To make such a contribution I first of all identify that Biesta (2006, 2013) and his 'pedagogy of interruption' are working within the logic of complexity thinking. In his theory Biesta identifies how fleeting moments can interrupt existing rational autonomous understandings of human subjectivity. Whilst acknowledging that one cannot programme such 'fleeting moments' into education, I draw on ideas from Arendt, Mouffe, Rancière and Masschelein and Simons to encourage the *possibility* of such moments - moments which open up spaces in which, through acting and speaking with others, *who* one is as an *initium*, a beginner can emerge.

However, emergence of the new raises the important issue of ethics. I argue that in her two-fold concept of forgiveness and mutual promising Arendt provides a way to develop an immanent ethics arising from horizontal relationships between people speaking and acting together. Finally, I focus on the fleeting moment or event of interruption itself. Drawing on Arendt, Loidolt,

Keller and Braidotti I argue that this can be understood as a first-person intersubjective encounter under conditions of plurality. I understand plurality as speaking and acting together with unique others open to the stance one expresses and vice versa. In intersubjective encounters one does not reveal an inner essence to others. Instead *who* one is emerges intersubjectively, in and through the encounter, creating a surplus, something new that was not in the world before. I also argue how such encounters have the potential to be ethical encounters. I then go beyond Arendt and draw on posthumanist and posthuman thinking to consider the possibility of intersubjective first-being ethical encounters with(in) the wider natural world. I argue that allowing some time for school understood as *skholé* – a safe space, *protected* from politicisation by the issues of the day, to reflect and explore *who* one is, and how one *can* act in the world – has an important role in encouraging, valuing and reflecting on such encounters.

I conclude that education which understands sustainability as an emergent process builds a bridge between education as a sustainable and education as a democratic process. In such an education *who* one is as a subject appears through intersubjective encounters, bringing into the world the possibility of the emergence of new, unexpected ways of knowing, being and acting essential for sustainability.

Abridged Contents Page

Abstract.....	3
Abridged Contents Page.....	5
Acknowledgements.....	6
Detailed Contents	7
List of Figures.....	11
Abbreviations.....	12
Chapter 1. Introduction.....	13
Chapter 2. Positioning the research: Sustainability and education.....	23
Chapter 3. Adopting a theoretical approach: Methodological considerations.....	63
Chapter 4. Theoretical frameworks used in the thesis.....	75
Chapter 5. Conditions which make emergence for sustainability a possibility: A role for ‘spaces of appearance’.....	95
Chapter 6. Arendt’s forgiveness and mutual promising: A contribution to the issue of ethics and emergence.....	137
Chapter 7. Intersubjective first-person encounters and the possibility of emergence of new ways of knowing, being and acting in the world: A contribution to sustainability and education.....	167
Chapter 8. Conclusions	199
Appendix 1. Copyright.....	215
Glossary of Terms.....	217
References.....	221

Acknowledgements

I would like to thank:

My teachers, Deborah Osberg and Alun Morgan, who have supported me generously in the writing of this thesis;

My husband Peter and son James, for their unfailing support;

My mother Beatrice and grandfather Eddy, for their inspiration.

Detailed Contents

Abstract	3
Abridged Contents Page	5
Acknowledgements	6
Detailed Contents	7
List of Figures.....	11
Abbreviations.....	12
Chapter 1. Introduction	13
1.1 Preface.....	13
1.2 Framing the problem: The paradox of sustainability	13
1.3 The Research focus and questions.....	15
1.4 Contribution to the literature	16
1.5 The particular contribution of theoretical research to education which engages with the issue of sustainability	17
1.6 Summary of chapters	18
1.7 Summary of chapter one	21
Chapter 2 - Positioning the research: Sustainability and education	23
2.1 Introduction	23
2.2 The development of ideas and understandings of sustainability and sustainable development.....	24
2.2.1 Development leading to the Brundtland Definition	24
2.2.2 Following on from the Brundtland Commission	30
2.3 A brief overview of education for sustainable development (ESD)	34
2.3.1 International.....	34
2.3.2 ESD in the UK.....	40
2.4. Differing conceptions of ESD	44
2.5 Caring about unknown futures through a ‘pedagogy of the present’	52
2.6 Toward the posthuman	55
2.7 Summary of chapter	61
Chapter 3: Adopting a theoretical approach: Methodological considerations.....	63
3.1 Introduction	63
3.2 Challenging the notion of practice as a ‘handmaiden to theory’	64

3.3 Asking educational questions: the contribution of geisteswissenschaftliche Pädagogik.....	65
3.4 Theory as an active process	67
3.4.1 Developing theory through writing and other creative arts.....	68
3.4.2 Publicity and the recursive development of theoretical ideas.....	70
3.4.3 Metaphor and the possibility of emergence of new ways of thinking about the world	70
3.5 Validity in theoretical work	71
3.6 Summary of chapter	74
Chapter 4 - Theoretical frameworks used in the thesis	75
4.1 Introduction	75
4.2 A World of flux	75
4.3 Complexity theory	78
4.3.1 Introduction to the concept.....	78
4.3.2 Complexity thinking and education	84
4.3.3 Implications for education of adopting a logic informed by complexity theory	84
4.3.4 Issues with complexity theory as a theoretical framework in education	87
4.4 Feminist thinking and its importance for this thesis	92
4.5 Conclusion and summary of chapter	93
Chapter 5. Conditions which make emergence for sustainability a possibility: A role for 'spaces of appearance'	95
5.1 Introduction	95
5.2 Kant and the (European) Enlightenment's influence on current educational practices.....	97
5.3 Biesta and a 'pedagogy of interruption'	100
5.4 Hannah Arendt – the vita activa, and emergence of the human subject in 'spaces of appearance'	103
5.4.1 The vita activa and action in 'spaces of appearance'	103
5.4.2 'Nativity'	106
5.4.3 Summary of section.....	109
5.5 'Spaces of appearance' in education: Issues and possibilities.....	110
5.5.1 Are 'spaces of appearance' possible in education?.....	110
5.5.2 Conditions of possibility for 'spaces of appearance' in education.....	115
5.5.3 'Visiting' in 'spaces of appearance'.....	116
5.5.4 Mouffe's agonistic pluralism.....	118
5.5.5 Rancière and dissensus	120

5.5.6	Masschelein and Simons and encouraging education as skholé	128
5.6	Education as democracy, education as sustainability.....	134
5.7	Summary of chapter	135
Chapter 6 - Arendt's forgiveness and mutual promising: A contribution to the issue of ethics and emergence		
		137
6.1	Introduction	137
6.2	Arendt's forgiveness and mutual promising - a two-fold action.....	139
6.3	The aspect of forgiveness	141
6.3.1	Forgiveness - a necessary and important feature of, and for, action in the public realm	141
6.3.2	Two different examples of approaches to the role of forgiveness in the public realm.....	144
6.3.3	Limits to forgiveness – the issue of extreme evil	147
6.3.4	Possibilities which the aspect of forgiveness presents to education.....	150
6.4	The aspect of mutual promising	152
6.4.1	Mutual promising, unpredictability and hope for the future	152
6.4.2	The power to make mutual promises	153
6.4.3	The role of mutual promising in keeping the power/potentiality generated in 'spaces of appearance' open.....	156
6.4.4	A contemporary example of mutual promising: The United Nations Conference on Climate Change - COP21, Paris 30.11 to 10.12.2015	157
6.4.5	Possibilities which the aspect of mutual promising presents in education ..	160
6.5	Education, potentia and response-ability	161
6.5.1	Potentia amongst 'the greyness'	162
6.6	Summary of chapter	165
Chapter Seven: Intersubjective first-person/first-being encounters and the possibility of the emergence of new ways of knowing, being and acting in the world - a contribution to sustainability and education		
		167
7.1	Introduction	167
7.2	Intersubjectivity and first-person encounters with others in plurality: contributions to education and sustainability	169
7.2.1	The development of ideas of intersubjectivity	169
7.2.2	Intersubjective first-person encounters and the coming into presence of who a person is.	171
7.2.3:	Ethics in first-person intersubjective encounters with others.....	175
7.2.4.	Impact on education and sustainability of first-person encounters with others under conditions of plurality	176

7.3 Intersubjective encounters with the wider natural world: Contributions to education and sustainability.....	178
7.3.1 Subjectivity and intersubjective encounters in the wider natural world	178
7.3.2 The possibility of ethical first-hand intersubjective encounters with(in) the wider natural world	190
7.3.3: Implications for education and sustainability of intersubjective encounters with the wider natural world.	194
7.4 Conclusion and summary of chapter	197
Chapter 8: Conclusions - Education, sustainability and intersubjectivity: exploring the possibility of the emergence of new ways of knowing, being and acting in the world.	199
8.1 Key issues explored and ideas developed in the thesis	199
8.2 Summary of chapters and how research responds to the research questions ..	199
8.3 Contributions to the field of education and sustainability.....	208
8.4 Avenues not explored and areas of tension: A short reflection	210
8.5 Possibilities opened by the research	211
8.6 Final remark.....	213
Appendix 1: Copyright permissions for figure 7 and figure 10.....	215
Copyright Permission for Figure 7: Participating in The Trembling Grass: Writing with Nature Eco-Poetry Workshop 25.10.2014	215
Copyright Permission for Figure 10: Children on their way to school – Cité du Soleil, Port-au-Prince, Haiti.....	216
Glossary of Terms	217
References	221

List of Figures

Figure 1: Venn diagram of ‘three pillars of sustainability’	36
Figure 2: Nested system approach to sustainably.....	37
Figure 3: Four pillars of sustainability	37
Figure 4: The pathway to raised attainment through outdoor learning....	43
Figure 5: Symbol for Yin-Yang	48
Figure 6: <i>Vitruvian Man</i>	57
Figure 7: Participating in <i>The Trembling Grass: Writing with Nature</i> Eco-Poetry Workshop 25.10.2014	69
Figure 8: The development of bifurcations in far from equilibrium systems showing the unique path followed in an open system	80
Figure 9: <i>Liberté armée du sceptre de la Raison foudroye</i> <i>l'ignorance et le fanatisme</i> . (own trans: Liberty, armed with the sceptre of Reason, strikes down ignorance and fanaticism).....	98
Figure 10: <i>Children on their way to school – Cité du Soleil,</i> Port-au-Prince, Haiti.....	163
Figure 11: <i>Bell Rock Lighthouse</i>	183
Figure 12: <i>Rain, Steam and Speed -The Great Western Railway</i>	183

Abbreviations

AHRC	Arts and Humanities Research Council
ANC	African National Congress
BIS	Department for Business, Innovation and Skills (UK 2009 - 2016)
CMP	Parties to the Kyoto Protocol
DCSF	Department for Children School and Families (UK 2007 - 2010)
DEFRA	Department for Food, Environment and Rural Affairs
DfES	Department for education and Skills (UK 2001-2007)
EE	Environmental Education
ESD	Education for sustainable development
GAP	Global Action Programme (GAP) on Education for Sustainable Development 2015
HEA	Higher Education Academy (UK)
ICS	The International Commission on Stratigraphy
IPCC	Intergovernmental Panel on Climate Change
IUCN	International Union for the Conservation of Nature
MDG	Millennium Development Goal
NAACP	The National Association for the Advancement of Coloured People (USA)
QCA	Qualification and Curriculum Authority
RSPB	Royal Society for the Protection of Birds (UK)
SDG	Sustainable Development Goal
TRC	Truth and Reconciliation Commission (South Africa)
UN	United Nations
UNCED	United Nations Conference on Environment and Development
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNESCO	United Nations Educational Scientific and Cultural Organisation
WCED	World Commission on the Environment and Development
WWF	World Wildlife Fund for Nature

Chapter 1. Introduction

1.1 Preface

Education is the point at which we decide whether we love the world enough to assume responsibility for it and by the same token to save it from that ruin which, except for renewal, except for the coming of the new and young, would be inevitable. And education, too, is where we decide whether we love our children [*and young people*] enough not to expel them from our world and leave them to their own devices, nor to strike from their hands their chances of undertaking something new, something unforeseen by us.

Arendt (2006a [1961]:193)

1.2 Framing the problem: The paradox of sustainability

The concepts of sustainability and education for sustainability contain a paradox. To 'sustain' something is 'to cause something to continue for an extended period of time' (Oxford Living Dictionaries: English: Online). The paradox is that to 'sustain' something it must also be allowed to emerge into something different than it is, for example an acorn into a unique oak tree, a human baby into a ballerina. Moreover, it is not always knowable in advance what that 'something' will be. Education, therefore, is fundamentally about sustainability, as one can argue that its role is to allow/encourage a human being to grow into someone different than he/she currently is. This then raises the question of whether education is currently set up in ways which allow for this emergence of the new. If it is not, this then requires an examination of, and challenges to, the theoretical underpinnings of education rather than attempts to (only) change techniques or contents within existing dominant frameworks.

The plethora of terms used to talk about sustainability in general, and environmental and sustainability education in particular, point to the confusion and difficulties which occur when society attempts to discuss this paradoxical issue. The different terms also show varying awareness of the importance of allowing the new to emerge. For example, conceptions of education *about, for*

and as sustainability have been explored by a wide variety of theorists including Bonnett (2000, 2002,), Foster, (2001, 2011), Orr (2004), Vare and Scott (2007), Sterling (2003, 2009 [2001], 2008, 2010a). Sterling summarises these as follows. Education *about* sustainable development is first order learning covering knowledge and skills relating to sustainability issues which, as Sterling (2009 [2001]:60) identifies, 'can be assimilated quite easily within the existing education paradigm'. Learning *for* sustainable development involves more reflective activities, encouraging the development of critical thinking skills; problem solving and trans-disciplinary thinking which many believe will be needed to solve sustainability issues in the future. However, as Sterling (2009 [2001]:61) points out:

There is often an assumption that we know clearly what values, knowledge and skills 'are needed'.

Sterling (2009 [2001]:61) recognises emergent aspects of education as sustainability when he describes education as sustainability as a:

transformative, epistemic learning response by the educational paradigm, which is then increasingly able to facilitate a transformative learning experience. This position subsumes the first two responses but emphasises process and quality of learning... There is a keen sense of emergence and ability to work with ambiguity and uncertainty. Space and time are valued, to allow creativity, imagination and cooperative learning to flourish.

Sterling (2009 [2001]) goes on to say that the existing educational paradigm is not set up in ways which can encourage this kind of transformative, emergent process. However, I argue that Sterling's and others' discussions (for example Orr 2004, Vare and Scott 2007, 2008, Foster 2011) do not then go on to explore sufficiently the existing underpinning dominant philosophies and theories of education which are blocking the development of a paradigm of education which allows for emergence. This gap is noted by some in the literature. For example, Jickling (1994:1) comments how:

concern arises from my observations of the research seminar held during the National Association for Environmental Education (NAAEE)'s 1990 conference held in San Antonio. Amid discussions about quantitative, qualitative, and action research, talk about philosophical analysis was conspicuous by its absence. The lack of attention to educational philosophy, and the research methods employed by philosophers, has

been an impediment to the development of environmental education. This is a matter of considerable importance...One of the problems in environmental education has been the failure of its practitioners to reconcile definitions of environmental education with an *a priori* conception of education.

Writing almost twenty years later Sund and Greve-Lysgaard (2013) still draw attention to the need to reclaim a study of '*education*' in environmental and sustainability educational research. They note the strong tendency in research conferences on sustainability and even those specifically on education *about/for/as* sustainability to discuss the educational content in relation to different subjects. The educational process itself and its theoretical underpinnings, including theory informed by philosophical ideas, are often not examined (although there are notable exceptions to this which I do explore in chapter two), or even acknowledged, as an area for study and concern beyond a few discussions of delivery methods or aspirations for a 'new educational paradigm'.

In this thesis I argue both for the identification of *a priori* conceptions of education, and, once these conceptions have been identified, for ways to interrupt them in order to enable the emergence essential for sustainability. I identify that a key area for attention is the premature closing down of subjectivity in existing *a priori* conceptions of education.

1.3 The Research focus and questions

These preliminary reflections give rise to the following research questions to be addressed in this thesis.

- *Is education currently set up in ways which allow or even encourage the emergence essential for sustainability and for education?*
- *If one accepts that it is not, which underpinning 'a priori' conceptions of education are blocking such emergence?*

- *If currently education is not set up to encourage the emergence of the new what can education do to encourage, even if it can never guarantee, such emergence?*
- *How can the ethical issues which arise from the unboundedness, irreversibility and unpredictability of the emergence of the new be approached?*

1.4 Contribution to the literature

In this thesis I make both an ontological and epistemological contribution to education and sustainability through exploring the paradox inherent in sustainability and the linked paradoxical closing down of the issue of subjectivity.

Through challenging static or stable understandings of the world, and also philosophy's frequent focus on being and singularity I open up a hope that education can be a place of radical possibility, a place where new, unexpected ways of knowing, being and acting in the world can emerge.

I provide a starting point for approaching the issue of ethics and emergence. This is not a totalising normative framework. Rather it is an immanent approach to ethics which responds to specific situations and emerges through and between speaking and acting together.

Through engaging with posthuman and posthumanist thinking I make a contribution to the broadening of education to be a place which deconstructs the authoritative position of the human in existing understandings of human engagement with the wider natural world. The arguments made open the possibility of enabling other ways of knowing, being and acting to emerge.

The approach to learning argued for in this thesis has connections to, but is also distinct from and goes beyond, some existing conceptions of transformative learning. Mezirow (2000:8) provides a starting point for the broad field of transformative learning. He describes transformative learning as a:

process of becoming critically aware of one's own tacit assumptions and expectations and those of others and assessing their relevance for making an interpretation.

However, not all transformative learning is necessarily emergent since the learning could simply involve transformation into another pre-determined understanding of what is 'good' or 'just' rather than engaging with ideas of the radically new and keeping the abundant possibilities of the future radically open. 'Radical' is used here to identify something which:

is uniquely new, something which has not been in the world before, and cannot be predicted from the ground from which it emerged (Osberg and Biesta 2008:313).

This thesis focuses on the possibility of keeping open radically new subjectivities and the role of intersubjective encounters in this process. Through challenging *a priori* philosophical underpinnings in education it contributes to ontological approaches to transformative learning.

1.5 The particular contribution of theoretical research to education which engages with the issue of sustainability

Education which engages with the issue of sustainability wants to create change. Indeed, many argue that since change is urgently needed, citing, for example, the report and recommendations of the International Panel on Climate Change (IPCC 2014), there is insufficient time to engage in theoretical work. I argue, however, that theoretical work does have an important role. It can identify and assist in understanding barriers to change and open up the possibility of new ways to think, respond and act responsibly. As Derrida (1992:45) suggests:

When the path is clear and given, when certain knowledge opens up the way in advance, the decision is already made, it might as well be said that there is none to make: irresponsibly, and in good conscience, one simply applies or implements a programme. Perhaps, and this would be the objection, one never escapes the programme. In that case one must acknowledge this and stop talking with authority about moral or political responsibility. The condition of this thing called responsibility is a certain experience and experiment of the possibility of the impossible; the testing

of the *aporia* from which one may invent the only possible invention, the impossible invention.

Rather than being a time-consuming, inappropriate action in urgent times, exploring and interrupting dominant theoretical/philosophical underpinnings and theorising ways to encourage the emergence needed to make sense of the paradox of sustainability is a crucial task.

1.6 Summary of chapters

In chapter two I position the research carried out in this thesis within the literature on sustainability and education for sustainability. I first of all explore events leading up to the development of the World Commission on the Environment and Development (Brundtland Report) (1987) definition of sustainable development and include a discussion of some other ways to define sustainability. I then consider developments in the field of sustainability subsequent to the Brundtland report both internationally and within the United Kingdom. I explore chronologically international and UK developments within education engaging with environmental and sustainability issues. I consider conceptions of education engaging with the issue of sustainability in the literature and identify some problematic issues within such conceptions. I highlight what is problematic in making assumptions about the future and draw on Facer's (2016) 'pedagogy of the present' to identify the need to keep the possibilities of the future radically open. I close the chapter by considering the emergence of posthumanist and posthuman thinking and the dynamic, emergent possibilities it opens up in education engaging with sustainability.

In chapter three I explore the methodology adopted in the thesis and establish the value of theoretical research within the field of education engaging with the issue of sustainability. Discussions include the need to challenge existing frameworks and ideologies. For example, I draw on Biesta's exploration of *geisteswissenschaftliche Pädagogik* and the need to consider what makes 'good education' in an age of measurement (2010a) and the role of both analysis and intuition (Bergson 1992 [1996]) in theoretical research.

Consideration is also given to the role of the process of writing and creativity in theoretical research (Richardson 1990, 1994, 2002), feminist understandings of interrelatedness and also the concept of 'doubled' explored by Lather (2007).

In chapter four I introduce key theoretical frameworks used in the thesis, the reasons for their selection and how they interconnect. I introduce theories of complexity and emergence and explore spatio-temporal conceptions of systems (the life of a system over time and space). This builds on a Heraclitean worldview in which everything is in flux, where new forms and structures are emerging: a world of becoming and potentiality. Building on this logic, I explore Bergson's conception of time and creative evolution, discussions of Prigogine's theories of emergence and dissipative structures (Prigogine 1983,1997, Prigogine and Stengers 1994), 'hard' and 'soft' understandings of complexity and emergence (Chalmers 2002, Osberg 2005, Osberg and Biesta 2007, 2008) and how these conceptions relate to education. Finally, the chapter briefly introduces feminist theories of epistemology, the compatibility of such epistemologies with complexity thinking and how feminist thinking can contribute to education engaging with the issue of sustainability.

In chapter five I first of all identify the dominant theoretical frameworks currently informing the understanding of subjectivity (what it is to be a human subject who acts in the world) in education. I examine the roots of this understanding and why this is problematic if education is to engage with the possibility of emergence which is essential for sustainability. To address this problem, I draw on Biesta's 'Pedagogy of Interruption' (2003, 2006, 2010a, 2010b) and Arendt's (1996 [1929], 1974([1958]) conception of 'natality' and I develop an understanding of spaces of appearance in education in which new ways of knowing, being and acting in the world can emerge. Having established a hunger to encourage such spaces of appearance in education I draw on a range of thinkers to establish ways which open the possibility of disrupting existing logics/frameworks, including rational autonomy and to inaugurate new ways of knowing, being and acting in the world essential for sustainability and for education which takes the issue of sustainability seriously. I highlight Arendt's (1994 [1958]) conception of 'visiting' and bearing with strangers; Mouffe's (2000,2004) conception of agonistic pluralism; Rancière's

(2001,2010,2011) conceptions of *dissensus* and stultification and Masschelein's (2011) and Masschelein and Simon's (2013) discussion of education conceived as *skholé*.

In chapter six I recognise and explore how emergence of the new raises the important issue of ethics. I argue that Arendt, in her two-fold concept of forgiveness and mutual promising, provides a way to develop an immanent ethics. This is ethics which arises in an event and responds to a particular difficulty or issue, a horizontal ethics which emerges when people speak and act together with unique others. I draw on Topolski's (2011) discussion of *teshuvah* – emphasising the act of *shuv*: a turning from misdeeds in the past towards mutual promising which can open hope for the future that lies at the heart of Arendt's conception of ethics. I discuss examples of forgiveness in the public realm; highlight how attitudes to forgiveness and mutual promising in the public realm have changed in recent years and introduce the possibility that forgiveness and mutual promising can be important and effective in situations which one initially thinks beyond the possibility of forgiveness. I discuss how Arendt's immanent ethics can be explored and encouraged in education, in particular education which aims to encourage a *sense of potentia* – a sense that one can generate the power to act in unexpected ways in the world. I consider what a sense of *potentia* can mean for education engaging with emergence and sustainability.

In chapter seven I focus on the fleeting moment or event of interruption itself. Drawing on Arendt, Loidolt, Topolski, Keller and Braidotti I argue that this can be understood as a first-person intersubjective encounter under conditions of plurality (understanding plurality as speaking and acting together with unique others open to the stance one expresses and vice versa). In intersubjective encounters one does not reveal an inner essence to others. Instead *who* one is emerges intersubjectively, in and through the encounter, creating a surplus, something new that was not in the world before. I also argue how such encounters have the potential to be ethical encounters. I then go beyond Arendt's modernist framework to consider the possibility of intersubjective first-person/being ethical encounters with the wider natural world. I argue that allowing some time for school understood as *skholé* – a safe space, protected from politicisation by the issues of the day, to reflect and explore *who* one is,

and how one *can* act in the world – has an important role in encouraging, valuing and reflecting on such encounters.

In chapter eight I explore how the ideas I have presented in this thesis respond to the research questions I outlined earlier in this introductory chapter. I discuss the contribution that the research makes to the field of education engaging with sustainability and also how it links to research exploring democracy and to research engaging with posthumanism/the posthuman in educational contexts. I discuss ways that the research can be taken forward. I conclude by emphasising that this is a hopeful thesis, engaging as it does with the abundant possibilities of the present and the possibility of encouraging educational moments which hold the future radically open.

1.7. Summary of chapter one

In this chapter I have argued that there is a paradox inherent within the notion of sustainability, namely that to sustain something emergence of the new is essential. In this logic education is fundamentally about sustainability as its role is to enable a person to emerge into something he or she currently is not. I argued that it is necessary to examine existing *a priori* dominant theories and assumptions in education which are blocking emergence. I outlined the research questions provoked by the necessity of allowing emergence in education and the contribution which this research makes to educational theory. I introduced methodological approaches and key theoretical frameworks used in the thesis and indicate where the various ideas will be examined and developed by providing an outline of chapters.

Chapter 2 - Positioning the research: Sustainability and education

2.1 Introduction

In the introduction to this thesis I highlighted that the concepts of sustainability and education for sustainability contain a paradox. To 'sustain' something is 'to cause something to continue for an extended period of time' (Oxford Living Dictionary: English: Online). The paradox is that to 'sustain' something it must also be allowed to emerge into something different than it is, for example an acorn into a unique oak tree, a human baby into a ballerina. I proposed that education is fundamentally concerned with sustainability since its role is to enable such emergence. I also acknowledged in the introduction that there is a plethora of terms, definitions and conceptions around the paradoxical issue of sustainability and also education engaging with the issue of sustainability. The purpose of this chapter is to explore the development of these varying ideas of sustainability and educational responses to these ideas so that the arguments developed in this thesis can be situated within this broader context.

I begin the chapter by tracing the chronological development of international activities which fed into the World Commission on Environment and Development (WCED) Report's (2007) *Our Common Futures* commonly known as the Brundtland Report. This report provided a widely quoted definition of sustainable development. I then discuss some issues that this definition raises as well as ways to define sustainability. I then highlight international and UK activities in the area of sustainability since the WCED Brundtland Report. I explore the development of educational responses to the issue of sustainability both internationally and within the United Kingdom. I examine different conceptual approaches to education and sustainability within these chronological developments and how these understandings can be problematic. I explore what Facer (2015) calls a 'pedagogy of the present' and how this has the potential to radically open the future, enabling the emergence essential for sustainability. Finally, I introduce how the trajectory of this thesis reflects the development of posthumanist and posthuman thinking.

2.2 The development of ideas and understandings of sustainability and sustainable development

2.2.1 Development leading to the Brundtland Definition

Practices which understood humans as part of an interconnected ecosystem and which found ways to reduce negative impacts of human activity on this ecosystem have existed for thousands of years within cultures around the world. Such practices, or traces of them, still exist in some cultures today (for example see discussions in Blewitt 2006, Sarkissian *et al* 2009, Kuletz 1998)¹. In the pre- and early Medieval periods such an orientation was also part of Western European countries. This orientation understood humans as having a place *within* the natural order rather than humans being placed in a position of domination *over* the natural world (for example see discussion in Bonnett 2002, Klein 2015). Traces of this Medieval understanding of the world remained within European agricultural practices up until the Second World War, as documented, for example, by Collis (1975). However, the various practices were/are not articulated as an expression of ‘sustainability’ or ‘sustainable development’ and should not be reduced to or ‘colonised’ as such, as this risks limiting their richness and complexities to (European) Enlightenment² and Modernist³ framings. The particular terms ‘sustainability’ and ‘sustainable development’ as they are currently widely used originate in the second half of the 20th Century at a time when post-war mass production, consumerism and technological development became more dominant in countries in Europe and other countries of the Global North⁴ (Huckle 1996, Payne 2010).

¹ This is an area I discuss in more detail in chapter seven which explores intersubjective relationships.

² I discuss the (European) Enlightenment in chapter five (also see glossary of terms).

³ Modernism arose in the mid nineteenth century and continues to be influential in the present time. It deliberately rejected ideas of the past and emphasised rationality, innovation and scientific development in an era of increasing industrialisation and urbanisation.

⁴ The terms Global North and Global South were introduced in the 1990s and became increasingly popular in the New Millennium. They are based on the United Nations Development Programme's (UNDP) Human Development Index to differentiate between different parts of the world. The terms are generally understood as follows. The Global North consists of those 64 countries which have a high HDI (most of which are located north of the 30th northern parallel), while the remaining 133 countries belong to the Global South. (For a critique of these terms see Hylland Eriksen [2015]).

In the 1960s concerns began to be expressed which challenged (European) Enlightenment and Modernist values and faith in science, and a belief that economic and scientific activity could provide an ever brighter future for successive generations (for example see discussion in Huckle 1996, Dresner 2002). There was an increasing awareness that science and technology were placing humans into a position which had far-reaching, rapid and long term impacts on the wider functioning of the earth's eco-system. Examples of such concerns include Ehrlich's (1968) 'population bomb' theory which predicted that the exponential growth in population would outstrip the capacity of the earth to support such population. Attempts to 'stretch this capacity' caused further concern, for example in *Silent Springs* (1962) Rachel Carson drew attention to the destruction of flora and fauna by DDT - a technology designed to improve food production to meet the world's growing population. Computer modelling undertaken by scientists from the Massachusetts Institute of Technology⁵ (see *Limits to Growth* by Meadows *et al.* 1972) suggested that the world would face catastrophic shortages in the 21st Century if population growth was allowed to continue at the current rate (Dresner 2002). This was interpreted by many wealthy countries as a need to halt development and population growth including in what they termed 'developing' countries in order to avoid annihilation of 'spaceship earth'⁶. There were critics of this conservative/conservationist approach to world development issues. For example, some academics critiqued the overreliance on simplified computer modelling. These assumed that population growth would continue at the same level but only allowed for limited growth in technologies developed to deal with the demands this population growth would make on resources (Dresner 2002)). Nonetheless issues raised in *Limits to Growth* continue to be examined today, for example by the steady-state ecological economist Daly (1991, 2014) who

⁵Commissioned by the Club of Rome, an international grouping of prominent scientists, civil servants and business leaders.

⁶ 'Spaceship Earth' is a term usually expressing concern over the use of limited resources available on earth and encouraging everyone on earth to act as a harmonious crew. The term has been used variously by George (1879) in *Progress and Poverty*; by Adlai Stevenson (1965) in a speech at the United Nations and by the ecological/ steady-state economist Boulding (1966) in his essay *The Economics of the Coming Spaceship Earth*.

uses the law of entropy to demonstrate that the scale of the economy is limited by the limited resources in the world.

Limits to Growth also came under scrutiny from those concerned with social justice. In the 1970s a movement developed, initially in Scandinavia and then increasingly across Europe, especially Germany, which was concerned with environmentalism both as a 'green issue' and also a social justice issue (Dresner 2002, Huckle 1996). At the 1972 UN Conference on the Human Environment in Stockholm, the poverty of the Global South was a key issue for discussion. The Prime Minister of India, Indira Gandhi, told the Conference: 'Poverty is the worst pollution' (Dresner 2002:29). According to Dresner (2002) it was at the 1974 Ecumenical Study Conference on Science and Technology for Human Development, convened by the World Council of Churches to explore environmental and social justice issues, that the terms 'sustainable' and 'sustainability' emerged. In 1975 environmentalists, led by the anthropologist Margaret Mead, convinced the World Council of Churches to introduce as its slogan: 'a just, participatory and sustainable society' (Dresner 2002:30) The term 'sustainability' thus grew from discussions of the interdependent principles of social justice and environmental care.

The 1977-81 Carter administration in the US funded the *Global 2000* study to explore the potential energy crisis. A key and unexpected finding of this report was the potential impact of increasing demand for energy on biodiversity and species loss. However, Carter was replaced as President by Reagan, who opposed the environmentalist lobby, claiming for example that 'trees cause more pollution than automobiles do' (cited in Dresner 2002:27). This was based on a belief that 80% of air pollution is caused by hydrocarbons released by vegetation.

In 1987 the World Commission on the Environment and Development (WCED) published *Our Common Futures*, the outcome report of three years of international consultation and debate. This report is widely known as the Brundtland Report, taking its name from the chair of the Commission. The mandate of the Commission was to consider environmental protection and develop concrete proposals to increase engagement of individuals, organisations and governments in the protection of the environment alongside

economic and social development aimed at assisting the World's poorest citizens.

The Commission identified three key areas to be considered in sustainable development: environmental aspects, social aspects and economic aspects. These aspects were promoted in activities of the United Nations such as the UN Decade of ESD which I discuss later in this chapter. The Commission popularised the term 'sustainable development' by providing the following often-quoted definition:

Humanity has the ability to make development sustainable – to ensure that it meets the needs of the present without compromising the ability of future generations to meet their own needs (WCED1987:1).

The Commission further defined sustainable development as:

a *process* (my italics) of change in which the exploitation of resources, the direction of investments, the orientation of technological development and institutional change are in harmony and enhance both current and future potential human needs and aspirations (43).

This joining of 'sustainable' and 'development' was, and continues to be, controversial. One reason for the emphasis on development was the need to address the concerns, highlighted above, that countries in the Global North should not be allowed to block poverty eradication and social justice in the Global South. As Dresner (2002) highlights, after its much-quoted definition, the Commission goes on to state:

The Commission believes that widespread poverty is no longer inevitable. Poverty is not only an evil in itself, but sustainable development requires meeting the basic needs of all and extending to all an opportunity to fulfil their aspirations for a better life. A world in which poverty is endemic will always be prone to ecological and other catastrophes (16).

However, some saw the bringing together of sustainability and development as an 'evasion' (Sauvé 1996) in order to remove the words 'ecology' and 'environment' from the international report on *Our Common Futures*, as they were not pleasing to the economic lobby. Some environmentalists and educators felt that the concept of sustainable development and education for sustainable development 'hijacked' environmental activities including

environmental education. The definition did not make specific reference to the environment and its protection, either for the sake of humans or for the sake of the environment itself. Some went as far as ‘accusing’ those promoting sustainable development of succumbing to an example of ‘paradoxical compound policy slogans’ (Stables 1996:55) or Orwellian ‘doublethink’ (Jickling and Wals 2008:14) in which two contradictory terms, in this case ‘sustainable’ and ‘development’, are put together and repeated so frequently that we accept them. Such an accusation understands that the word ‘development’ implies economic development and suggests that ‘development’ is something which unavoidably implies damage to the ecosphere. Responding to the need to include environmental concerns in definitions of sustainable development Jacobs (1996:26) writing on behalf of the Real World Coalition (an organisation representing a wide range of charities working in the fields of ecological, humanitarian and political reform projects), defined sustainable development as a process in which ‘the environment must be protected...to preserve essential ecosystem functions and to provide for the wellbeing of future generations’.

The terms ‘sustainable development’ and ‘sustainability’ have now become so synonymous in the literature that in order to define sustainability many authors and organisations cite the *Our Common Futures (Brundtland)* definition of sustainable development. The Earth Charter Commission (2000:1), an international civil society initiative, developed an understanding of sustainability based on the idea of a global society ‘founded on respect for nature, universal human rights, economic justice, and a culture of peace’. Grober (2012:20) identifies a cultural root of the concept of sustainability (2012) in *nachhaltig*, a 300-year old term from forestry management meaning ‘to hold back reserves for future generations’. This sense is conveyed in *The Oxford Living Dictionary: English: Online* definition of sustainability as ‘the avoidance of the depletion of natural resources’. Habitat.org.tr⁷ (2016: online) draw on Bromley’s (2008) article to define sustainability somewhat more comprehensively as:

The capacity to endure. In ecology the word describes how biological systems remain diverse and productive over time. For humans it is the

⁷ Habitat.org.tr is a non-profit organisation in Turkey. Habitat is founded for research and publishes information about human settlements, environment, education and health. Their Official website is: <http://habitat.org.tr/>

potential for long-term maintenance of well-being which in turn depends on the natural world and natural resources.

This definition of sustainability with its reference to ecology introduces a more positive way to engage with the notion of sustainable development rather than limiting it to being an economic concept. Approached from the perspective of ecosystems as they develop over time, development can be understood as the emergence of new levels of organisation integral to, and essential for, a system's ecological survival. Adams (1996), in his discussion of '*future nature*' recognises this point, using the life cycle of sand dunes as an illustration. He does point out, however, that if the rate of change or development is too rapid for the system to cope with then the system could be overwhelmed and die. For this thesis in which I explore the importance of emergence for sustainability this more positive interpretation of development as a new level of organisation within ecosystems is important.

In recent years there has been an increasing awareness of the complementary rather than conflicting nature of poverty eradication and ecological protection. This has included a recognition of the importance of drawing on the expertise of the Global South. This has included an increasing awareness of the expertise of women who have a key role, for example in agricultural practices, in the Global South (see Braidotti & Wieringa 1993, Shiva 1988, 2004, 2006 Radford Ruether 1996, Sontheimer 1991). The United Nations has been active in developing thinking and sharing in this area, for example through its high-level Office for South-South Cooperation which it established in 1974. The UN Office's 2016 report *Good Practices in South-South and Triangular Cooperation for Sustainable Development* highlights successful initiatives developed in the Global South which can then be shared with other countries. For example:

The WFP [World Food Programme] Brazil Centre of Excellence against Hunger is a partnership between WFP and the Government of Brazil that helps to make the experience of Brazil in addressing the Zero Hunger Challenge available to other developing countries for learning, sharing and adaptation through South-South and triangular cooperation. The Centre advocates developing nationally owned, sustainable programmes and policies for school feeding, social protection and nutrition improvement (11).

2.2.2 Following on from the Brundtland Commission

The WCED (Brundtland) Commission (1987) laid the groundwork for consultations such as the UNCED Earth Summit in Rio de Janeiro in 1992 which produced the first United Nations Framework Convention of Climate Change⁸ and the Agenda 21 agreement. These did require national and local governments to commit to a sustainability agenda in order to reduce risks inherent in climate change. However, according to Huckle (1996), powerful influences in the Global North succeeded in blocking the interests of the Global South and social justice issues. Huckle argues that this led to agreements and approaches which promoted 'weak sustainability', based on the free market, rather than 'strong sustainability', based on regulation by the state and international bodies. For example, *The United Kingdom Sustainable Development UK Strategy* (HMG 1994) demonstrated a commitment to sustainability based on free market self-regulation.

The Rio Earth Summit was the first of a series of climate summits, including Kyoto in 1997, Copenhagen 2009, and Paris in 2015. Prior to the 2015 Paris Summit, agreements failed to set and/or enforce carbon emission targets which the IPCC considered to be within the 'safe limits' needed to prevent catastrophic climate change. Since the first summit in 1992 there has been growing scientific evidence of the effects of global warming and its negative impacts on the environment and humans within that environment. Recently there has been a mounting recognition of the Anthropocene⁹ which repositions humans as

⁸ According to the Intergovernmental Panel on Climate Change (IPCC) (2007) there is a dual relationship between sustainable development and climate change. On the one hand, climate change influences key natural and human living conditions and thereby also the basis for social and economic development, while on the other hand, society's priorities on sustainable development influence both the GHG emissions that are causing climate change and the vulnerability thus caused. Climate policies can be more effective when consistently embedded within broader strategies designed to make national and regional development paths more sustainable. This occurs because the impact of climate variability and change, climate policy responses, and associated socio-economic development will affect the ability of countries to achieve sustainable development goals. Conversely, the pursuit of those goals will in turn affect the opportunities for, and success of, climate policies. The latest research on climate change was published by the IPCC in its *5th Assessment Report* (2014).

⁹ The International Commission on Stratigraphy (ICS) explain the term 'Anthropocene' as follows:

geological agents acting upon the very strata of the earth in long term and permanent ways (also see discussion in Braidotti 2013a:8). This has created more international political will for change, contributing to more positive outcomes including the agreements reached in 2015 in Paris which saw commitments to reduce carbon emissions to levels within the targets recommended by the Intergovernmental Panel on Climate Change (IPCC) (2014) based on current scientific predictions. In September 2016 China and the US both ratified the Paris agreements, which is a positive sign. However, such commitments are fragile, dependent on political will which can take surprising directions and vulnerable to changes in key international political positions and economic directions. I discuss the development of climate summit commitments and agreements in more detail in chapter six where I examine the role of forgiveness and mutual promising in the political domain.

Alongside these international negotiations on climate change the United Nations have organised consultations and set international targets in the area of development and poverty eradication. At the Millennium Summit in September 2000, the largest gathering of world leaders in recorded history adopted the UN Millennium Declaration. This committed participating nations to a new global partnership to reduce extreme poverty. It contained time-bound targets with a

The 'Anthropocene' is a term widely used since its coining by Paul Crutzen and Eugene Stoermer in 2000 to denote the present time interval, in which many geologically significant conditions and processes are profoundly altered by human activities. These include changes in: erosion and sediment transport associated with a variety of anthropogenic processes, including colonisation, agriculture, urbanisation and global warming, the chemical composition of the atmosphere, oceans and soils, with significant anthropogenic perturbations of the cycles of elements such as carbon, nitrogen, phosphorus and various metals.

Environmental conditions generated by these perturbations: these include global warming, ocean acidification and spreading oceanic 'dead zones'. the biosphere both on land and in the sea, as a result of habitat loss, predation, species invasions and the physical and chemical (International Commission on Stratigraphy 2016).

In September 2016 the working party voted in favour of accepting the term subject to identification of a specific signal which can mark the change. The working group is now undertaking further research to establish whether such a signal can be identified (Carrington 2016).

deadline of 2015. These became known as the Millennium Development Goals (MDGs). These goals covered environmental and social justice issues including poverty alleviation, sustainable development and global development partnerships, universal primary education, gender issues and extension of life expectancy. Progress towards the goals was monitored throughout the period and the final outcomes were published in *The Millennium Development Goals Report* (United Nations 2015). This showed some good progress towards the global eradication of extreme poverty and hunger.¹⁰ Whilst progress was not uniform across the globe and the global figures hide increasing gaps between richest and poorest in some regions the outcomes of the MDGs show that *positive change can and can and does emerge and can be hoped for.*

MDG Goal Two focused on achieving universal primary education and education was seen as a key driver towards long term poverty alleviation. Progress has been made, for example the outcomes report states that globally:

the number of children out of school has reduced from 100 million in 1990 to 57 million in 2015 (UN 2015:5).

and that:

Sub-Saharan Africa has seen the greatest progress, with enrolment rates leaping from 52% in 1990 to 80% today (5).

The UN (2015) emphasises that there is still much work to do, citing for example, that 1 billion people still live in poverty (according to the World Bank definition of poverty) and more than 800 million people do not have enough food. Women continue to face inequality and many still die in childbirth worldwide. The United Nations also emphasises that climate change is now the major threat to ecological and social wellbeing. To respond to this the United Nations launched the Sustainable Development Goals 2015-30, thus formally bringing together climate change, ecological protection and poverty eradication targets. These targets were drawn up after an extended consultation period with

¹⁰ For example, the review of MDG1 (UN 2015:4) indicates that:

the number of people living in extreme poverty has declined by more than half, falling from 1.9 billion in 1990 to 836 million in 2015. Most progress has occurred since 2000

and:

The proportion of undernourished people in the developing regions has fallen by almost half since 1990, from 23.3 per cent in 1990–1992 to 12.9 per cent in 2014–2016.

over seventy countries drawn from all parts of the world. This was in response to criticism that the United Nations developed the MDGs without consultation, especially with countries in the Global South. The emphasis in the new targets is on the expectation that all countries will work towards the targets. This is a departure from the MDGs which, whilst theoretically set for all countries, were in practice perceived in the Global North as ‘targets for poor countries to achieve, with finance from wealthy states’ (Ford 2015:1). There are seventeen goals which cover poverty eradication, social and gender equality, reducing climate change and also its impacts and improving human rights¹¹. The SDGs bring together the development agenda seen as necessary for social justice and the environmental and climate change agenda, emphasising that a holistic approach to these issues is necessary and that sustainable and development are not conflicting terms. Sustainability thus understood is not a static concept, instead it emerges through cooperative action in the world. The term ‘sustainable development’ popularised by the WCED Brundtland Report in 1987 receives a restatement in these goals.

The SDGs have been the subject of articles in recent ESD and environmental education journals. For example, Sterling (2016:1) notes that the SDGs do recognise how education is a key element in achieving the various goals but that the:

role of education is more profound and comprehensive than is recognized in the text of the SDGs as regards its potential to address their implementation. Education requires a re-invention, and re-purposing so that it can assume the responsibility these challenges require, and develop the agency that is needed for transformative progress to be made.

The term ‘sustainable development’ remains unpopular amongst some environmentalists. For example, Jickling (2016) comments that it remains a poorly understood term and that terms such as environment protection and climate change are more readily understood, and thus have more ‘traction’. However, as Sterling (2008, 2016) points out the term ‘sustainable development’ does at least reflect that a holistic response is needed to the

¹¹ Full details are available at United Nations Knowledge platform (2016) available at <https://sustainabledevelopment.un.org/?menu=1300>

challenges that the world faces, albeit understandings of what sustainable development and ESD mean to different people do need to be reframed.

In this section I have traced the origins of the terms sustainability and sustainable development through to their use in 2015 in the United Nations Sustainable Development Goals. In the following sections I explore how education has responded to sustainable development initiatives, exploring first international then UK responses as well as considering different conceptions or framings of education which engage with the issue of sustainability.

2.3 A brief overview of education for sustainable development (ESD)

2.3.1 International

Environmental and other 'adjectival educations' appeared in various forms in the second half of the twentieth century (Huckle 1996, Sterling 2003) bringing into education the concerns raised by post-war mass production, consumerism and ecological concerns explored earlier in this chapter. An early articulation of environmental education (EE) was provided by the International Union for the Conservation of Nature (IUCN) in 1970 as:

a process of recognising values and classifying concepts in order to develop skills and attitudes necessary to understand and appreciate the inter-relatedness among man, his culture and his biophysical surroundings. Environmental education also entails practice in decision making and self-formation of a code of behaviour about issues concerning environmental quality (IUCN 1970:3).

Thus we see an early indication that EE was seen as more than 'green issues'. This trend was seen to a lesser extent in the statement from the UN Conference on the Human Environment, Stockholm 1972, which saw EE as a measure to understand, protect and improve the environment and its quality. The subsequent Inter-Governmental Conference on Environmental Education in Tbilisi, Georgia did once again introduce a wider focus in EE in its Tbilisi Declaration stating that the basic aim of EE is to:

succeed in making individuals and communities understand the complex nature of the natural and built environments resulting from the interaction of their biological, physical, social, economic and cultural aspects, and

acquire the knowledge, values, attitudes and practical skills to participate in a responsible and effective way in anticipating and solving environmental problems and the management of the quality of the environment (UNESCO-UNEP,1975).

Following on from the WCED Brundtland Report (1987), use of the term education for sustainable development (ESD) did become more widespread. In 2002 Japan proposed a United Nations Decade on ESD for the period 2005-2015 which further popularised the terms sustainable development and ESD.

The aim of the decade was

to integrate the principles, values and practices of sustainable development into all aspects of education; to address the social, economic, cultural and environmental problems we face in the 21st century' (UN 2005:1).

defining ESD as learning which aims to:

- respect, value and preserve the achievements of the past;
- appreciate the wonders and the peoples of the Earth;
- live in a world where all people have sufficient food for a healthy and productive life;
- assess, care for and restore the state of our Planet;
- create and enjoy a better, safer, more just world;
- be caring citizens who exercise their rights and responsibilities locally, nationally and globally (1).

The UN recognised that there was a general lack of agreement on how to define ESD, but that the above definition provides a starting point. Key topics during the decade included: climate change, disaster risk reduction, biodiversity, poverty reduction, and sustainable consumption.

This UN Decade for ESD highlighted the 'three pillars of sustainable development' identified by the WCED1987 Brundtland Report. These are often depicted as a Venn diagram, with sustainability occurring at the center of the diagram (see Figure 1).

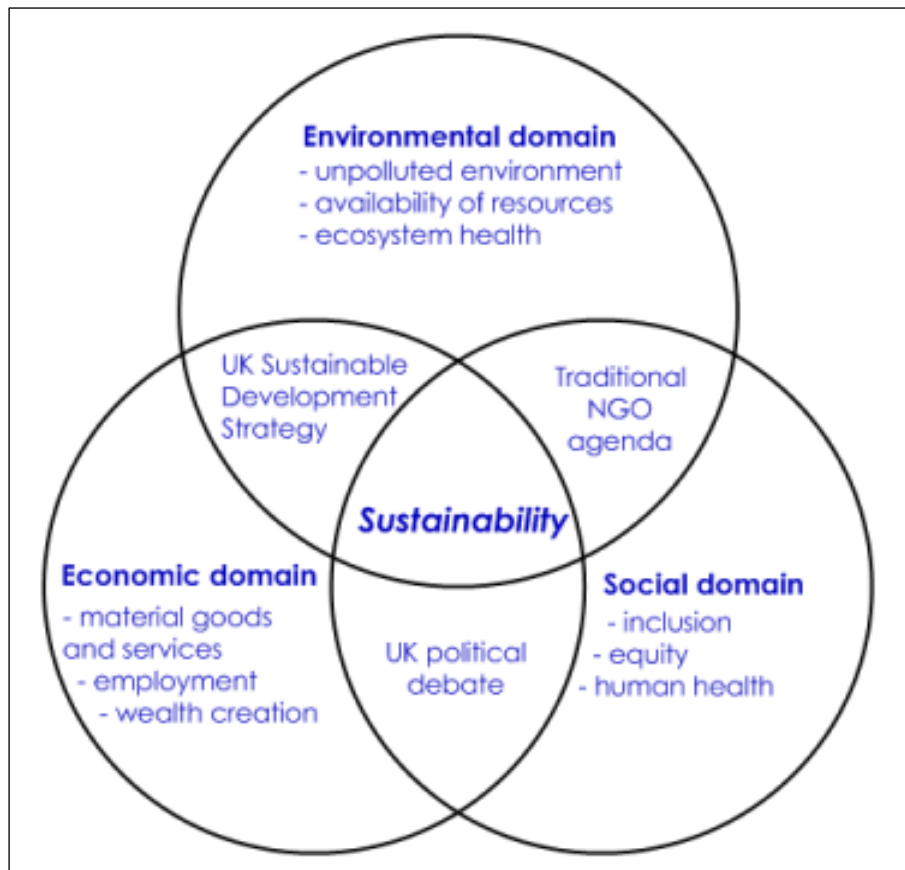


Figure 1: Venn Diagram of Three Pillars of Sustainability University of Brighton Centre for Teaching and Learning (2006) annotation of the 'three pillars of sustainability' (UN World Summit 2005) for the UK Context.

This does provide a visual focal point for exploring ESD; the diverse and interconnected issues involved and a way to explore the imbalance between the different areas. There are, however, critics of the three pillar Venn diagram. Commentators, for example Sterling (2010a,2010b) and Strachan (2009), point out that economic, environmental and social domains do not exist as separate pillars in the world. Instead economic and social systems are nested in ecological systems which are the fundamental systems supporting these other domains rather than an area to which society can pay more or less attention as it pursues social and economic goals. Rather than a Venn diagram, critics of the three pillars model propose a nested system model (see Figure 2).

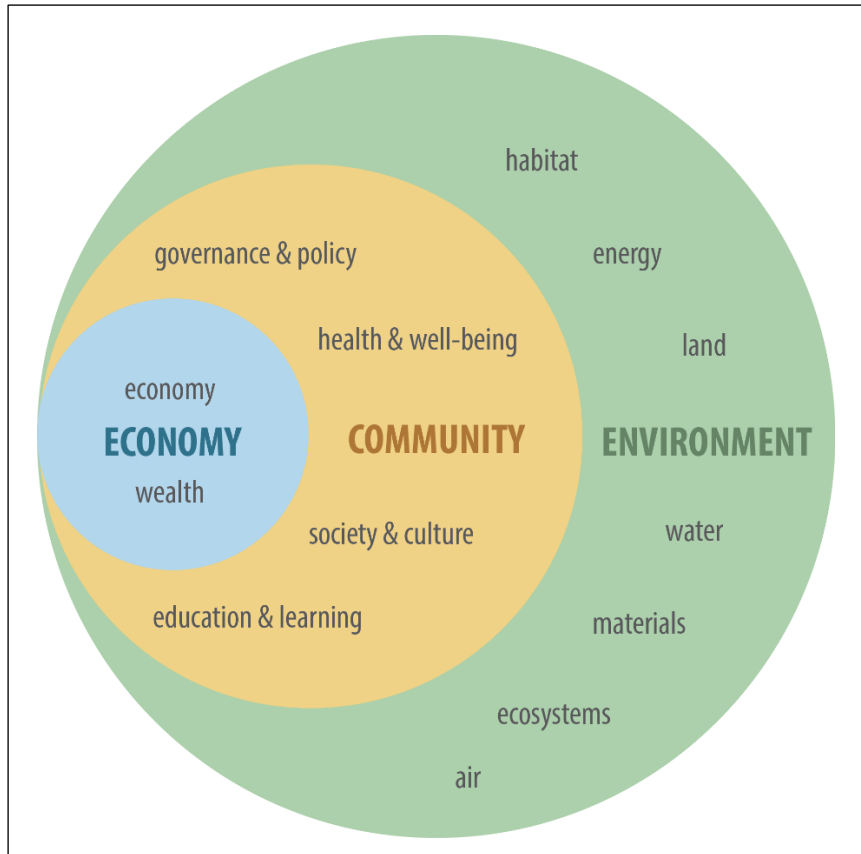


Figure 2: Nested system approach to sustainability (FutureOxford: Online)

Another criticism leveled at the three pillars model is that it omits culture as a specific domain. Critics suggest that a fourth pillar is needed as shown in Figure Three.



Figure 3: Four Pillars of Sustainability (Willard 2010: Online)

Willard (2010: online) explains how in this model the social pillar relates to:

actions and issues that affect all aspects of society, including poverty, violence, injustice, education, healthcare, safe housing, labour and human rights,

and the culture pillar relates to:

actions and issues that affect how communities manifest identity, preserve and cultivate traditions, and develop belief systems and commonly accepted values.

Bonnett (2000, 2002, 2004) identifies the importance of cultural and belief systems and commonly accepted values in education engaging with sustainability. He argues how the metaphysical horizons of different cultures, such as that of Western Europe, affect epistemological understandings of the natural world and what constitutes a 'right relationship' within that epistemological framing. For Bonnett seeking out and exploring the consequences of these framings is essential if education exploring sustainability is to have meaning and make a difference.

The United Nations undertook regular reviews of the activities within the Decade of ESD and incorporated these into its strategies, for example the UNESCO (2010) *Strategy for the Second half of the Decade for ESD*. In 2014 UNESCO communicated the achievements of the Decade for ESD in its publication *Shaping the Future We Want: UN Decade of Education for Sustainable Development (2005-2015) Final Report* (UNESCO 2014a). In the report UNESCO identified four thematic emerging areas. These were: ESD is an enabler for sustainable development; the importance of stakeholder involvement in developing educational strategies; ESD is galvanising pedagogical innovation, especially learner-driven pedagogies and ESD has spread across all levels and types of education, for example formal and informal, academic and vocational. Reflecting on the Decade UNESCO recognised that learning engaging in ESD 'requires far-reaching changes in the way education is often practised' (UNESCO: Online) and this recognition informed their planning for the next set of targets.

The Decade for ESD was not without its critics. For example, Jickling (2016) comments that the Decade brought very little actual change and that continuing confusion over what sustainability and ESD mean hampers the difference that ESD can make. He argues instead for continued use of adjectival terms such as climate change education which he believes carry more traction. Kopina (2012) argued that plural understandings of sustainability, as promoted in the decade, dilute environmental aspects and hamper the development of the ecological knowledge needed to tackle urgent and severe ecological problems. More positive assessments of the Decade are provided, for example by Nambiar and Sarabhai (2015) who argue that the Decade made a positive contribution to preparing the ground for the UN sustainable development goals (SDGs) 2015-30. As I discussed earlier in the chapter, the SDGs bring together climate change and development/poverty eradication targets into a unified set of targets.

Looking forward into the period post-2015, UNESCO developed a Global Action Programme (GAP) on Education for Sustainable Development. In introducing the action plan the Director-General of UNESCO commented:

Today's interconnected global challenges demand responses that are rooted in the spirit of our collective humanity. I believe that the risks and opportunities we face call for a paradigm shift that can only be embedded in our societies through education and learning (2014b:1).

The Global Action Plan has two objectives:

- to reorient education and learning so that everyone has the opportunity to acquire the knowledge, skills, values and attitudes that empower them to contribute to sustainable development – and make a difference;
- to strengthen education and learning in all agendas, programmes and activities that promote sustainable development (UNESCO 2014b:3).

This emphasis indicates that at this strategic international level ESD is understood to involve *how* learning takes place as well as conveying information. As noted earlier in this section, UNESCO recognises and emphasises that ESD:

requires participatory teaching and learning methods that motivate and empower learners to change their behaviour and take action for

sustainable development. Education for Sustainable Development consequently promotes competencies like critical thinking, imagining future scenarios and making decisions in a collaborative way (UNESCO: Online).

In this thesis I concentrate on the *educational process* itself and the opening of opportunities for students to appear as unique subjects who have the potential to be and act in new, unforeseeable ways in the world. The ideas I develop can contribute to both of the UNESCO Global Action Plan objectives.

2.3.2 ESD in the UK

Environmental education (EE) and development education developed as themes in UK education in the second half of the 20th Century (Huckle 1996, Sterling 2009 [2001]). In the 1990s EE was one of 5 cross-curricular themes introduced into the new UK National Curriculum. The environmental theme drew on the Tbilisi declaration's wider understanding of EE as including social justice and development as well as environmental issues. Initially there was optimism in relation to EE within the National Curriculum and a range of EE and ESD activities were introduced (for example see discussion in Huckle 1996). However, concerns raised over the increasingly cumbersome National Curriculum led to discouragement of further development of cross-curricular themes (Lawton 1996:35). This impacted on the development of cross-curricular ESD initiatives. In 2008 the Sustainable Development Education Panel (SDEP) chaired by Holland produced the UK *Report on Sustainable Development Education*. This report linked education outcomes to seven principles of sustainable development. This framework was adopted by the Qualification and Curriculum Authority (QCA) and was valued in school activities (Tide Global Learning 2010). However, the failure to link the principles of sustainable development to educational principles (and the *a priori* assumptions within these) limited the usefulness of the SDEP framework.

The UK 2005-2010 Labour Government response to the UN Decade of ESD included the Department for Children, Schools and Families (DCSF) *National Framework for Sustainable Schools* (2006) which aimed for every school to be sustainable by 2020. The DCSF Framework had three key interlocking parts: a commitment to care; an integrated approach and a selection of 'doorways' to sustainability. The eight 'doorways' to achieve a sustainable school ranged from

food and drink to local well-being, global dimensions and inclusion. It is unfortunate, however, that a doorway/theme specifically labelled for biodiversity was missing, although coverage of biodiversity could be integrated across the doorways. The activities were linked to the National Curriculum. It is noticeable, however, that, the strategy refers to the planet 'as our most precious resource' (DCSF 2006:1) The use of the word 'resource' implies a framing of the planet and life within it as something valued for its usefulness to humans rather than something with value and integrity in its own right. Such a framing is explored by Bonnett (2002,2004), whose ideas I explore later in this chapter.

There were also noticeable discrepancies within the Labour Government's guidance on sustainability. For example, the sustainable school framework specifically mentions 'community cohesion' but the one hundred and twenty page *Diversity and Citizenship Curriculum Review London DFES-00045* (Ajegbo 2007), which aims to embed the findings of Cattle's report (2005) on community cohesion, makes no mention of sustainability.

The Conservative/Liberal Democrat coalition government 2010 to 2015 weakened the requirement of schools and colleges to promote specifically the sustainability agenda. It no longer required schools to meet the challenge of the Sustainable Schools' Framework. It reduced the scope and detail of the National Curriculum, offering instead a minimum national entitlement organised around subject disciplines, such as climate change science and biodiversity. It *did* produce various consultations such as the Department for Business, Innovation and Skills (BIS) report *Skills for Sustainable Growth* (2010) but this focused on skills needed for economic development rather than environmental or social concerns.

There has been some success in the teaching of sustainability in the UK as noted by *Education for Sustainable Development (ESD) in the UK – Current status, best practice and opportunities* (UNESCO 2013). The Eco-schools initiative offered by *Keep Britain Tidy* does still offer a voluntary framework which schools can work towards to develop its engagement with sustainability. However, Huckle (2013) draws attention to the possible issues that corporate sponsorship can raise for programmes such as *Ecoschools* which tend to favour a focus on working with 'known' frameworks and solutions.

In 2011 DEFRA¹² produced the UK Government White Paper *The Natural Choice: securing the value of nature*. Whilst it is heartening to see that the white paper states that ‘we want to see every child in England given the chance to experience and learn about the natural environment’ (DEFRA 2011: 47) and that red tape should be reduced to allow learning across the whole curriculum to take place *in* the natural environment, it is still noticeable that this is set in a context in which:

A healthy, properly functioning natural environment is the foundation of sustained economic growth, prospering communities and personal wellbeing (2).

This can once again be seen as an ‘enframing’ of nature as a resource for us to use for economic and personal growth rather than having value in and of itself.

Research into educational approaches to enable and enhance learning in the natural environment (LINE) was funded by DEFRA, Natural England and English Heritage via the three year Natural Connections Demonstration Project (2012-2016) at Plymouth University (Natural England 2012). It involved activities in over two hundred schools across the South West of England. The aim was to generate and evaluate activities which could then be shared across the UK, significantly increasing the number of school-aged children experiencing learning in the natural environment. The project emphasised a connected systems view of sustainability and adopted an ‘organic’/emergent approach to ways that local schools and their students developed and shared ideas for learning in the natural environment. This emphasis was adopted despite the economic development and ‘school measurement’ overtones of the White Paper. The project was evaluated in a final report published in 2016 (Natural England 2016) which indicated that teachers and pupils found that LINE increased enjoyment and achievement; social skills across all curriculum areas and an improved sense of health and wellbeing. These outcomes have been modelled as a spiral leading towards enjoyment as shown in Figure 4.

¹² DEFRA - Department for Environment, Food and Rural Affairs



Figure 4: The pathway to raised attainment through outdoor learning
 Natural Connections Demonstration Project, 2012-2016: Final Report (Natural
 England 2016:10)

One can argue that there is an emphasis in the models on the value of the natural environment in terms of what it can do for the child. The model could be developed to indicate what LINE can contribute to an expanded sense of the value of the natural environment for its own sake rather than a means to an end for the child.

In the Higher Education sector it does appear that many Universities are engaging with the 'green agenda', for example developing campus, community and curriculum sustainability activities (for example see HEA 2014). It is, however, possible to question the motivation for this and to ask whether it is a genuine desire to foreground sustainability or rather to enhance the image of the Universities in an increasingly competitive and market-led higher education context. Higher education and higher education research is identified as having an important role in developing knowledge of, and attitudes towards, the environment as well as a place to develop technological solutions to environmental challenges and to improve resilience to predicted environmental shocks (Leal Fihlo 2015). However, critics point out that an over-emphasis on technological solutions and predictions of future trends can obscure the assumptions behind these activities. It can limit the possibilities for thinking about alternative futures and for questioning attitudes towards the world and the

place of humans in it (Foster 2001, Gough and Scott 2008, Gough 2014, Facer 2016).

An issue which emerges from this chronological review of definitions, strategies and educational responses to sustainability is the impact of different conceptions on this field in general and education in particular. For example, one can identify the different emphasis placed on imparting subject knowledge and engaging in participatory strategies and transformative experiences, as well as the importance placed in some conceptions on the different framings of human relationships with the wider natural world. These different conceptions of ESD are explored in more detail in the next section.

2.4. Differing conceptions of ESD

Through exploring the chronological development of ESD differing conceptions of the theory and practice of ESD become apparent. In chapter one I highlighted how these differing conceptions can be understood as conceptions of education *about*, *for* and *as* sustainability (for example see Foster 2001, Vare and Scott 2007, Sterling (2009 [2001], 2008,2010a,2016). In this section I discuss these conceptions in more detail, explore some of their implications and what can be problematic in the different approaches. I also highlight the important overlap between the different approaches and how they do not have to occur in isolation.

Sterling (2009 [2001]:60) argues that education *about* sustainable development is 'first-order learning covering knowledge and skills relating to sustainability. To discuss first-order learning Sterling (2010) draws on Bateson's (1972) theory of learning and change (within the learner) which itself was informed by Whitehead & Russell's theory of logical types. For Sterling (2010a:22) first-order learning and change occurs:

within existing parameters without examining or changing the assumptions or values that inform what you are doing or thinking...In this sort of learning, meaning is assumed or given and relates primarily to the external objective world.

First-order learning is characterised by content-led transmissive pedagogies which can be easily assimilated into existing education. Many involved in ESD,

including UNESCO, as I explored earlier in this chapter, are challenging such first-order learning.

Sterling argues that education *for* sustainable development is characterised by second-order learning and change. It invites learners to examine critically and, if necessary, change their beliefs, values and assumptions. This can be uncomfortable and challenging for the learner because second-order learning is:

more difficult [than first-order learning] and, because it involves reflecting critically on learning and change that takes place at the first-order level, it generates an awareness and understanding that goes beyond that level (22).

Sterling comments that whilst first-order learning (learning *about*) can be characterised as 'doing things better', second-order learning can be understood as 'doing better things'. However, Sterling (2009 [2001]:61) goes on to point out that:

There is often an assumption that 'we' know clearly what values, knowledge and skills 'are needed' to do things better and also what those 'better things' might be.

I would add that it is often also assumed that this knowledge is situated with adults, to be shared with/imparted to children. Sterling also points out that an education *for* something, be it sustainability or citizenship, remains on the margins of the curriculum. Education, as a whole, remains unchanged, supporting an education system, Sterling argues, which is itself supporting fundamentally unsustainable practices. For education to have something meaningful to contribute to the issue of sustainability it needs to challenge these unsustainable educational practices, enabling the possibility of education as sustainability. This requires third-order learning and change (drawing again on Bateson's model) which, according to Sterling (2010a:23):

may be said to be epistemic learning; that is, it involves a shift of epistemology or operative ways of knowing and thinking that frames people's perception of, and interaction with, the world. This entails 'thinking about and evaluating the foundations of thought itself' (Bawden & Packham, 1993, p.6); the experience of seeing our worldview rather than seeing *with* our worldview so that we can be more open to and draw upon other views and possibilities.

The concept of education as sustainability has been explored by many educationalists in a variety of ways. It is within this body of work that this thesis is situated.

Some educators, for example Sterling (2009[2001], 2008, 2010a, 2010b) and Strachan (2009) have developed a particular approach to education as sustainability which takes as its starting point a nested systems approach to sustainability (as depicted in Figure two earlier in this chapter) where economic systems are nested in wider social systems which are nested within an ecological/environmental system. In his model of education as sustainability or 'sustainable education' Sterling (2010b:214) argues for a shift, a third-order learning response which challenges the current 'myth of separateness' which leads Modernist society to:

still perceive, think and talk in dualistic terms of economy and ecology, of people and environment, of social and natural, and them and us.

He argues instead for an epistemological shift to a framing of the world as a participative reality, which recognises:

we are inextricably actors in Earth's systems and flows, constantly affecting and being affected by everything natural and human, in dynamic relation (Metzner 1995). We are unavoidably participative beings (214).

Towards achieving this vision Sterling *et al.* (2005) developed an approach to learning they call *linkingthinking* to encourage such a transformative shift. In this model they argue for a shift away from habits of mind which limit society to boxed, linear problem-solving thinking; breaking problems down into separate parts with each problem having separate solutions and a narrow focus in which the 'whole of something' is no more than the sum of its parts. In contrast to this 'boxed thinking' Sterling *et al.* argue for *linkingthinking* which emphasises how issues and solutions form part of an interconnected web where the whole can be more than the sum of its parts. *Linkingthinking* is also employed in Sterling's *Future Fit Framework* (2012) developed for use in higher education. *Linkingthinking* contributed to approaches adopted in the Learning in the Natural Environment (LINE) demonstration project led by Plymouth University 2012-16.

Linkingthinking has the potential to be transformative in the sense discussed above - thinking which challenges one's existing worldview rather than thinking within one's existing worldview. However, such an approach is not fully open. Whilst it requires a challenging of one's worldview it then recommends a *particular solution*, albeit these recommendations do begin to engage with the logic of complexity thinking and emergence which informs this thesis (and which I explain in detail in chapter 4). There is much to commend this kind of *linkingthinking* and it makes an important contribution to education engaging with exploring ecological systems and the position of humans within these. However, space also needs to be left for the rich possibility of other ways of thinking and for finding ways to encourage and allow these to emerge. In this thesis I too argue for a position which challenges separation, linearity, rationality and for the possibility that other ways of knowing and being in the world exist. However, in this thesis I also emphasise the importance of *keeping open who and what emerges*. The arguments I develop are not intended to replace the new ways of thinking introduced by *linkingthinking*. Instead they hope to engage with them and open up the approach to even broader possibilities and opportunities.

Drawing on the ideas of Sterling (2009 [2001] and the need to re-orientate education towards 'third-order' learning which 'takes us to the depths of things' (Sterling 2009 (2001):21), O'Brien and Howard (2016:118) call for a re-visioning of education and a shift towards a 'living school':

in which *life* and *living* are embedded in a vision of education and learning that sustains the individual, the social and the biotic and to see the three as inextricably interconnected.

Moreover, such a:

repurposing of education must reflect a vision that contributes to *well-being for all*—individually, collectively and for the 'other than human' life on our planet.

They emphasise the importance of phenomenological (first-person) contact with others and opportunities to engage in dialogue in educational experiences, ideas central to the line of thinking I develop in chapter seven. They discuss a range of educational initiatives, for example, the Green School, Bali and the

Living School and Living Campus initiatives in the Canadian primary, secondary and higher education sectors and argue that:

Living Schools do not offer a dogmatic, unilateral agenda as an alternative to traditional education, but instead the concept opens a conversation for a place specific, contextualized, dialogical relationship among people, communities, generations and the living world in which we dwell (123).

What O'Brien and Howard do not fully recognise/articulate, however, is the impact of the Enlightenment/Modernist framing of the subject engaging in such dialogical relationships. I discuss the importance of challenging such framings later in this chapter in my discussion of posthumanist and posthuman thinking.

Vare and Scott (2007) also draw attention to the relationship between first, second and third-order learning about sustainability, education and the importance of interconnection in ESD. They propose that education *about* sustainability and education *for* sustainability (first and second order learning) form one side of an interconnected whole, whilst education *as* sustainability forms another side. These are interconnected in a relationship which can be articulated by the Tao Yin-Yang symbol (see Figure Five) rather than hierarchical steps.



Figure 5: Yin-Yang Symbol (Vare and Scott 2007:195)

Vare and Scott highlight how in the Yin-Yang symbol the 'dots' of the opposite colour within each side symbolise how 'no phenomenon is completely devoid of its opposite' (196) and that opposing forces both consume and support each

other in an 'eternal cycle of reversal' (196). They cite as an example the introduction of the highly detailed and controlling National Curriculum in the UK in the 1990s as a response to the liberalism of the 1960s and 70s (as I discussed earlier in this chapter). This contained detailed cross-curricular activities and expectations relating to sustainability. This then led in the period post-2000 to a reduction in detail and an allowance of broader interpretations of the National Curriculum. The government focus on 'Learning in the Natural Environment' (Natural England 2012) can be viewed in this line of argument as a move towards the government again having control over the curriculum in relation to the wider natural world, albeit it is now expressed in a different way. Another example of such an interrelation between approaches can be seen in the increasing focus by UNESCO on participative pedagogies in relation to ESD noted earlier in this chapter. Initial topic focused exploration *about* sustainability led to participants thinking critically about the paradoxes inherent in sustainability and their framing of the wider natural world. Thus, for Vare and Scott's (2007) model, educational practices *about* and *for* sustainability, have value, as they have the potential to put issues around human relationships within the earth's ecosystem(s) 'on the table', to use Pennac's term (Pennac 2010 cited in Masschelein and Simons¹³ 2013:39) term. Education *about* and *for* sustainability contain within them the seeds of the epistemological questioning which is a feature of education as sustainability. The idea of 'seeds' also introduces a temporal understanding into Vare and Scott's thinking. What is problematic, however, in this model drawing on the Tao symbol is that it can be interpreted as a *closed* system with eternal movement between the different aspects within the closed circle. In contrast, thinking informed by the logic of complexity and emergence (which I explore in detail in chapter four) opens up the exploration of the spatio-temporal interconnection over the life of an *open adaptive system* and this is the area where this thesis can make a contribution.

Bonnett (2000, 2002, 2008) approaches the issue of education as sustainability by emphasising the metaphysical nature of education. He argues for an understanding of metaphysics, not as some kind of abstract (or even empty/vaporous) domain of thinking, but instead as:

¹³ I explore the ideas of Masschelein and Simons in Chapter Five

An active form of influence that, for example, leads us to understand the world in the ways that we do, provokes the constructions - theoretical and abstract or otherwise - that we might make (Bonnett 2000:592).

Bonnett (2000, 2002, 2004, 2012) argues that ESD approached as a policy, as can be seen in the various international and national policy initiatives discussed earlier in this chapter - invocations to do this or that - is doomed to failure. He argues that unless there is an opportunity to explore the metaphysical underpinnings of the relationship one and one's society has with the wider natural world, and how this could be reformulated to reduce the negative ecological and social impacts of this framing, educational interventions will not be effective. He calls this emphasis on metaphysical engagement 'sustainability as a frame of mind.' Here Bonnett is emphasising consciousness, mental processes and connections. Thompson (2010) takes such a line of argument a step further. He argues for the importance of embodied activities, emphasising that education as sustainability is not only an epistemological issue, but also an ontological one. This raises the possibility of an onto-epistemology, an approach which does not separate what it is to know and what it is to be. Thompson (2010:76) suggests walking in the local environment as a way to engage with this possibility. This practice can involve research by students and informative support from different specialists on flora and fauna, but the crucial aspect of what he calls 'walking on the wild side' is an understanding that students are:

Participating in an animal act, embodied locomotion, in an ancient human practice of wandering and exploring the place they live.

Embodied activities open the possibility of embodied encounters with others - an important theme in the thinking I present in chapter seven on intersubjective encounters.

This issue of embodiment is also apparent in the work of Stables (2006) and with Gough (2006) who argue for an approach to the issue of education as sustainability informed by living and learning as a semiotic process. Drawing on the work of the philosopher Pierce, they discuss how learning does not occur as part of mind/body dualism in which bodily experiencing and cognition are separate. Instead they argue that one responds as a whole to the sign(al)s with

which one comes into contact. Each person responds differently, depending on their own physical and cognitive current and past experiences. In such an approach knowledge, for example about issues connected to environmental and social challenges, cannot be transmitted as an object from the teacher to the learner in accordance with stated aims and objectives within an instrumental framing of education. Instead 'learning as semiosis, valorises individual difference and unpredictability' (Stables and Scott 2002:285). In an approach informed by *living and learning as semiosis* the role of the teacher is to provide different opportunities and stimuli to which learners can respond, and space to explore these responses.

Foster (2001, 2011) also argues against what he calls an instrumental approach to education. In this he includes education for sustainable development which, however admirable one finds the aims, is still a form of inculcation towards certain pre-set end-points, external to who a person is, and to the process of the educational encounter. He refutes human abilities to predict the future and highlights the damaging impact that such predictions can have. Foster (2011:383) argues in strong terms that:

various kinds of learning are seen as instrumental to one's behaving responsibly towards future generations, within a framework of present actions and ecological consequences. This whole picture of future-oriented responsibility is radically flawed, fundamentally misrepresenting our creative engagement in change. It grossly exaggerates our powers to predict and control and licenses an endemic bad faith in the construction of sustainability goals supposedly derived from obligations to the future.

Foster (2001:163) argues for education as a sustainable process which engages with:

an understanding of our personhood that is not external or mechanistic, but comes from within, a lived exploration of experience; that is imaginatively alert to the full complexities, including the often paradoxical and ungraspable character and the emotional depths of such experience.

This raises the question of how it is possible to explore issues such as sustainability and human responsibility in ways which leave the question of the future radically open. Facer (2016), in her articulation of a 'pedagogy of the

present' provides a helpful and interesting way into this issue and this is the subject of the next section.

2.5 Caring about unknown futures through a 'pedagogy of the present'

Facer (2016) identifies three tendencies present in education which engages with the issue of the future which she terms optimisation, colonisation and protection. She intentionally exaggerates and caricatures these tendencies to make her point. Education which takes an optimisation stance towards the future is envisaged as:

An unfolding landscape with a set of contours and characteristics, the path through which being navigated by making appropriate analyses of costs and benefits of each choice (53).

Rational choice closes off some pathways and opens others and these choices can be balanced against each other. Education in such a framing of the future involves 'mastery of the future landscape' (53) by learners equipping themselves 'with appropriate information about the landscape and by making optimal choices at critical junctures' (53). As Facer points out, this type of framing of the future is particularly apparent in educational discourses which identify education as preparation for the labour market. The UK government strategy document *Skills for Sustainable Growth* (2010), which I introduced earlier in this chapter, frames both education and ESD in just such a way. This approach is, however, problematic, not least because it assumes that the landscape is relatively predictable and thus cuts down the development of an 'abundance' of alternative possibilities which could be explored. Moreover, it can lead to an emphasis on individual optimisation and survival where the better an individual prepares themselves in a competitive world the more likely they are to succeed in obtaining scarce employment opportunities and resources.

A second orientation towards the future identified by Facer is what she calls colonisation or future imperialism. In such a framing 'discourses are concerned with changing and manipulating the future from the standpoint of, and by working on, the present' (54). This is problematic, whether one is promoting a neo-liberal framing of the futures dominated by the market place or alternatives

such as those suggested in ESD which promote a particular 'correct' way forward and shape particular attitudes and desires. Whilst this second approach might seem more favourable than the first to those with a particular vision of the world informed by environmental and social concerns it is pertinent to ask whether 'education as a project should in fact be concerned with presenting ideas of inevitable or desirable futures (in whatever form) to young people at all' (55). As Gough (1990:308 cited in Facer 2016: 55) points out:

Adults should be cautious - and confident of their moral grounds - before setting out to design curricula which, deliberately or otherwise, tamper with children's' concepts and images of futures, regardless of whether or not these concepts and images reflect, distort, confound or transcend those of adults.

Facer highlights potential problems with education which colonises the future since it can enable the projection of current anxieties about the world into children's futures and furthermore seek to abdicate adult responsibility to address such anxieties in the present.

The third framing of the future in educational discourses is one of protection, a 'fantasy of education as *the* powerful talisman to ward off future catastrophe' (2016:56). Education is understood as *the* force which can spare us from impending disaster. For example, getting a higher education degree is understood as *the* way to safeguard your future flourishing. Whilst education can have a role in addressing issues, the risk lies in identifying it as '*the* talisman' and remaining silent on other important factors including health, social opportunity, democratic functioning, technological resources, human and wider ecological rights which impact on individuals' futures and the future of the wider natural world. As Facer (2016:57) points out, the danger of education as protection or as *the* talisman is not just that it is 'wishful thinking' but that it 'fetishises' education and 'deracinates' education from the other divergent, conflicting forces such as family, communities, and forms of government and economics which can contribute to meaningful foundations for different presents and futures.

These insights regarding optimisation, colonisation and 'education as talisman' raise the question of how else can the issue of the future be approached in education in general, in this thesis in particular, education exploring

sustainability. Facer (2016:58) proposes a reorientation toward a 'pedagogy of the present', which opens up:

An orientation to the future that admits of the possibility of future transformation that exceeds and resists colonisation by the constraints of the present.

Such an orientation towards the future allows for 'the possibility for novelty in the future' (58), and for a 'rich possibility of *different* ways of being' (58). Such an approach goes beyond the epistemological problem that someone cannot know the future since it has not yet happened. Instead, as Facer points out, it is an:

ontological assertion, that the future will constitute a different reality, that it will bring ways of being, of living, of knowing, that are different from today and from the past (58).

In such an orientation:

the educational encounter is understood as constituting a distinctive temporality of its own; a temporality that is characterised by the intentional putting into play of the abundant materials that constitute and create futures, that keeps them intentionally open for exploration, and that expands and encourages the space to participate within that process (58-59).

In chapter one I asserted that emergence is essential for sustainability since in order to sustain something it must also be allowed to emerge into something different than it is. Moreover, education understood in such a logic is fundamentally about sustainability as its role is to allow/encourage a human being to grow into someone different than he/she currently is. The 'pedagogy of the present' envisioned by Facer, with its emphasis on the 'dynamic and emergent properties of the present' enables an argument to be made that a 'pedagogy of the present' can be understood as a framing of education as sustainability. It is in such a framing of education that I position this theoretical thesis.

As this thesis unfolded it became apparent that another important context for this thesis is the field of posthumanist and posthuman thinking which has developed in recent decades. This is the area I explore in the final section of this chapter.

2.6 Toward the posthuman

As I discussed earlier in this chapter Bonnett (2000, 2002, 2004,2012) emphasises that new framings of the natural world and our place within it are needed for education which engages with the issue of sustainability if such education is to make a difference to ways of knowing, being and acting in the world. The possibility of these new framings is a connecting theme of the diverse field of posthumanist and posthuman thinking. In this section I first of all provide a brief overview of the development of this field and some of its key thinkers and then relate the issues these developments raise for education engaging with the issue of sustainability, in particular to the ideas proposed in this thesis.

Posthumanist and posthuman thinking is a diverse field emerging through a range of different but interconnecting academic and political contexts. It is characterised by a multiplicity of perspectives including those of feminist thinkers such as Haraway (1988, 2000 2008) and Braidotti (1991,2006, 2011a, 2011b, 2013a, 2013b,2016), literary critics such as Hayles (1999), inventors such as Kurzweil (2005, 2012) and thinking initially situated in animal rights theory and activism such as that of Wolfe (2009, 2010). Posthumanist thinkers concentrate on re-envisioning models of selfhood and include overcoming, as Onishi (2011:102) states, 'the humanist dream of a discrete, autonomous subject'. The posthuman, however, takes these ideas a step further, challenging the very boundaries of what it is to be human in a twenty-first century world. Some thinkers within this posthuman field concentrate on exploring the blurring between human and machine/technology in the development of 'cyborgs' (for example Haraway's writing about cyborgs (2000), Hayles 1999), some consider the blurring between human and other-than-human life, whilst others explore combinations of both aspects. For example, Damlé (2012) discusses the interplay between technology, embodiment and gender in an exploration of the science fiction writing of Marie Darrieussecq. It is within such a blurring that Braidotti develops her notion of the nomadic subject - a non-unitary understanding of the subject which responds to, and emerges from, its environment in unexpected ways. Onishi (2011) argues that what unites these

various posthumanist and posthuman conceptions is an engagement with, and critique of, understandings of humanism which developed in the European Renaissance and were reinforced during the European Enlightenment. This thesis develops a trajectory which first of all engages with the possibilities opened up by post-humanist framing of subjectivity. It then moves towards the rich vein of thinking opened by posthuman understandings of subjectivity and what can emerge if the boundaries between the notion of 'human' and the wider natural world are left radically open.

The subjectivity which posthumanist thinking challenges is the Western conception of 'universal man' which, as Braidotti (2013b:2) points out, is not universal but is instead deeply Eurocentric. Moreover, such Eurocentrism does not identify a geographical location or contingent attitudes. Instead, as Braidotti (2013b:2) points out:

it is a structural element of our cultural practice, which is also embedded in both theory and institutional and pedagogical practices.

In the dominant Eurocentric understanding the human subject is:

white, male, heterosexual, urbanized, able-bodied, speaking a standard language and taking charge of the women and the children (2).

For Braidotti (2006, 2013a, 2013b) and Haraway (2007) the Eurocentric humanist subject as a universal model is visually represented in Leonardo da Vinci's Vitruvian man (see Figure 5). For Braidotti (2013b:2) Vitruvian man represents:

an ideal of bodily perfection which doubles up as a set of mental, discursive and spiritual values. That iconic image is the emblem of Humanism as a doctrine that combines the biological, discursive and moral expansion of human capabilities into an idea of teleologically ordained, rational progress. Faith in the unique, self-regulating and intrinsically moral powers of human reason forms an integral part of this high-humanistic creed.

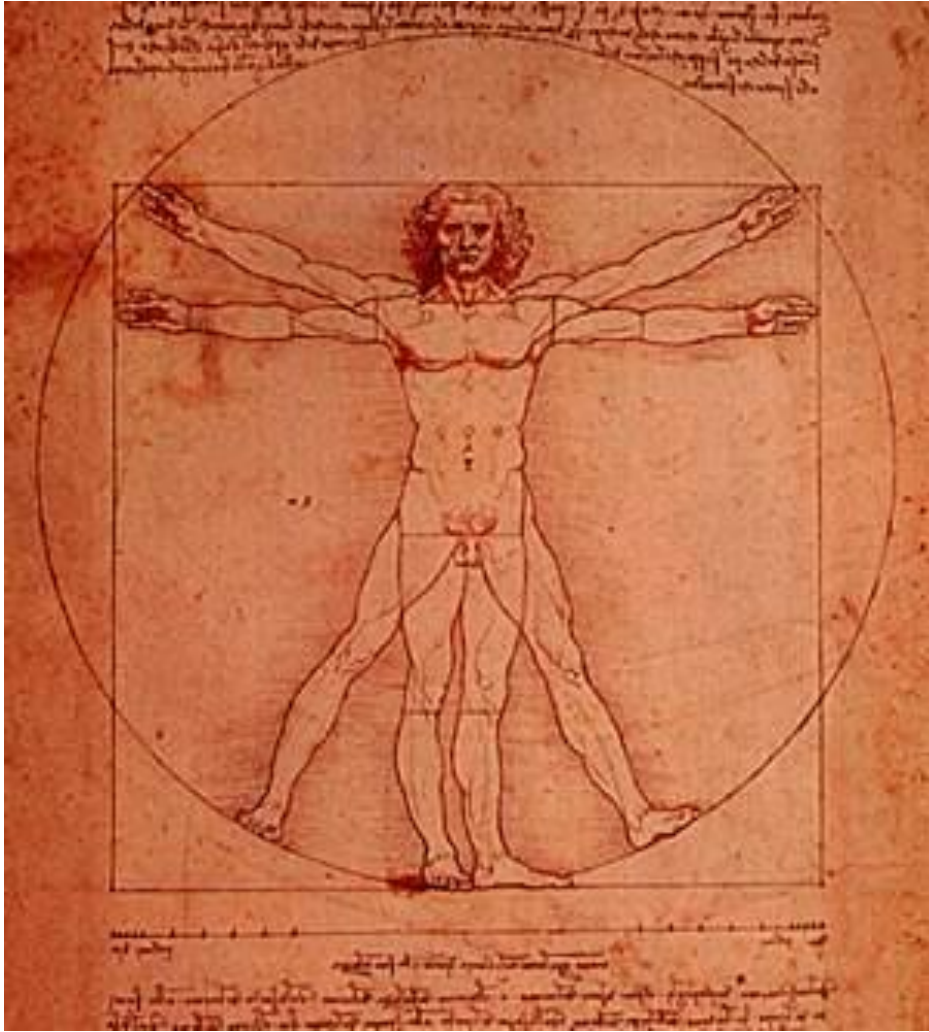


Figure 6: *Vitruvian Man*

[Pen and ink with wash over metal point on paper] (1490),
Leonardo da Vinci, Gallerie dell'Accademia, Venice

Over the last thirty years there has been an increasing questioning of this 'high-humanistic creed', as can be seen in the range of critical discourses engaging with colonialism/post-colonialism, feminist thinking and animal studies.

Posthumanism can thus be seen as emerging from this anti-humanism move, seeking to find new ways to be human in the world – other understandings and possibilities for what it is to be human (see discussion in Braidotti, 2006, 2011a, 2013b, and Wolfe 2010). As Braidotti (2013a: 4) points out:

Sexualised, racialised and naturalised differences, far from being the categorical boundary-keepers of the subject of Humanism, have evolved into fully-fledged alternative models of the human subject. The extent to which they bring about the displacement of the received ideas about the human is of course a matter which requires critical debate.

Pedersen (2010:242) points out that post-humanism understood in the way Braidotti proposes is *not* a:

chronological progression or historical moment (i.e. the 'end of humanism', or what comes 'after humanism'), but addresses fundamental ontological and epistemological questions.

It is in such a posthumanist framing that the thinking in chapter five is developed. Braidotti (2011a, 2013a, 2013b) highlights how posthumanist thinking is not opposed to humans. It is *not* 'anti-human' thinking. Rather it is a challenging of existing, often taken for granted, understandings of ways to be human which have caused marginalisation of, domination over and violence toward ways of being human identified as 'other'.

An issue which emerged for attention within posthumanist discourses was the need to also examine the human relation/interrelation to the wider natural world. The animal rights movement grew out of awareness of, and seeks to highlight, what it understands as the damaging relationship between humans and the wider natural world, in particular other animals. However, as Wolfe (2010) points out, what is problematic with the conception of 'animal rights' is that it extends into the wider animal realm social contract theory designed to manage the relations between humans (especially humans understood in particular ways). It thus serves to anthropomorphise animals rather than engage with them as existents in their own right with their own ways of being. This issue has become a strand within what has developed as a critical discourse of post-anthropocentrism. This discourse seeks to engage with the wider natural world in ways which do not place humans in a position of both higher value and, domination over, other animals. It shows awareness of the dangers of extending humanistic solutions into relationships with the wider natural world.

Bonnett (2004), whose ideas I introduced earlier in this chapter, explores the issue of 'retrieving nature' in his discussion of education for a post-humanist age. He argues the need for different ways to frame and engage with 'nature', identifying this as an essential requirement of education engaging with environmentalism and sustainability. Stables and Scott also draw attention to the problematic nature of an approach to sustainability rooted within a humanistic framework, commenting that:

A post-humanist, as well as a postmodernist, critique is called for; at the very least, a retrospective on the aims and means of modernity; at its most ambitious, a reworking of humanist assumptions with a view to greater valorisation of the non-human, though this will inevitably emanate from and respond to human concerns: for example, increasingly recognising non-human life as necessary and not just as a desirable and self-renewing resource (Stables and Scott 2001:277-278 cited in Pedersen 2010:244).

However, Pedersen critiques Stables and Scott's position commenting that in Stables and Scott's (2001) analysis of a posthumanist education:

there is little space for the various forms of multispecies agencies, identities, and cross-formations of lifeworlds increasingly highlighted by cultural studies (including animal studies). The 'human' is still conceived as the rights-granting, voice-giving, and value-ascribing uncontested authority, and the use value of a posthumanist curriculum is modestly expressed as a 'greater care for ecology and the environment' [Stables and Scott 2001, p. 276]. (Pedersen 2010:244).

Pedersen goes on to argue that similarly, Bonnett's view on posthumanism, in which he states that posthumanism:

does not deny our power but acknowledges its limits and recommends that we refrain from using it in ways essentially destructive to ourselves in nature (Bonnett 2004:168 cited in Pedersen 2010:245)

understands environmental problems as emanating from a dysfunctional humanism rather than a need to 'make space for the various forms of multispecies agencies, identities, and cross-formations of lifeworlds' (Pedersen 2010:245) that posthuman thinking opens up. Pedersen also warns of the dangers present in the articles she cites of an over-reliance on education as *the* talisman, to use Facer's (2016:56) phrase, to address 'all that has gone awry in modernist humanism.'

The concept of the posthuman, whilst emerging from and through these various developments of posthumanist and post-anthropocentric thinking does take a different stance. The posthuman seeks to question the authoritative position of the human. Furthermore, it questions the very boundaries between the technological, the human and other elements of the wider natural world. For example, Braidotti (2013b:60) argues that the posthuman:

displaces the boundary between the portion of life - both organic and discursive - that has traditionally been reserved for *anthropos* - that is to say, *bios* - and the wider scope of animal and non-human life, also known as *zoe*.

For Braidotti (2013b:60) *zoe* is the 'transversal force that cuts across and reconnects previously segregated species, categories and domains'. It is the 'dynamic self organising force of life itself' (686). She recognises that this understanding of *zoe* is very different from the negative understanding proposed by Agamben (1998)¹⁴ commenting that:

Human subjectivity in this complex field of forces has to be redefined as an expanded relational self engendered by the cumulative effect of all these factors (Braidotti 1991, 2011a). The relational capacity of the post anthropocentric subject is not confined within our species, but includes all non-anthropocentric elements: the nonhuman vital force of Life (Braidotti:2016: 686).

Pedersen (2010:247) highlights that an education informed by such an understanding of the posthuman *goes beyond* the thinking of environmental educationists:

where posthumanism entails a pragmatic 'corrective device' to reform education in a more sustainable direction without moving toward a deconstruction of the authoritative position of the human subject.

In her deconstruction of the authoritative position of the human subject Pedersen argues for a posthuman framing which allows for the possibility of creating a space in which intermingling of different 'species of knowledge' (2010:241) can happen. This is a line of thinking which is also developed in Haraway's (2008) writing on 'companion species' which she understands as those we gaze upon in close encounter (from the root of the word 'species') and those with whom we break bread (from the root of the word 'companion'). In such relationships we are 'beings-in-encounter' (5) where one is created in intra- and inter-action in which:

the partners do not precede the meeting; species of all kinds, living or not, are consequent on a subject-and-object-shaping dance of encounters (4).

¹⁴ In his thinking Agamben valorises *bios* – (discursive life of the citizen) over *zoe* – bare life.

Haraway (2000:55) argues that:

No objects, spaces, or bodies are sacred in themselves; any component can be interfaced with any other if the proper standard, the proper code, can be constructed for processing signals in a common language.

Building on the ideas of Haraway and Braidotti, Ferrante and Palmieri (2015) argue for an approach in education which encourages an opening in which such an 'intermingling' can arise in the present. Such an opening is a place where taking care of one's own becomings and the intra-connected becomings of others is possible and can emerge in unexpected ways in 'a pedagogy of the present' which leaves the future radically open.

When I set out to write this thesis I did not have a posthuman intention in mind. Rather it emerged through my action of thinking and writing about subjectivity and took me beyond my engagement with posthumanism (which I explore in chapter five) and became an important aspect of my thinking in chapter seven. In addition, the challenge of introducing the importance and possibility of an *emergent* ethics within posthumanist and posthuman framings of our relationship with others became very important and I develop these ideas in chapters six and seven.

Before I commence the development of these arguments relating to subjectivity and also emergent ethics it is necessary first to make a case for the importance of engaging with theoretical thinking and writing in education. Undertaking theoretical research is a move which can appear unpopular in the current education climate and also in a research area such as sustainability which many identify as an area needing urgent action. It is to making this case I turn in the next chapter.

2.7 Summary of chapter

In this chapter I have sought to explore the development of thinking in the broad field of sustainability and education engaging with the issue of sustainability in order to situate this thesis within the broader literature in this field. I have outlined international developments which popularised the term 'sustainable development' in 1987 and the roots that the phrase has in both environmental

and social justice movements. I have explored developments since 1987 both in the international and UK contexts. I then explored different conceptions of education engaging with sustainability including different levels of learning and different framings of human relationship within the wider natural world. Using Foster's concern that our approaches exaggerate our powers to predict and control the future I have highlighted my intention of framing this thesis as a 'pedagogy of the present' with an emphasis on the 'dynamism and emergent properties of the thick present' (Poli 2011 cited in Facer 2016:58). I ended the chapter with an exploration of posthumanist and posthuman thinking. I explored how the trajectory of this thesis aligns with development in this field and introduce the dynamic, emergent possibilities posthumanist and posthuman thinking open up in education engaging with sustainability.

Chapter 3: Adopting a theoretical approach: Methodological considerations

3.1 Introduction

In chapters one and two I established the necessity of emergence for both sustainability and education. I identified the need to identify *a priori* theoretical and philosophical assumptions in education which are acting as a barrier to such emergence and which close down framings of the future which keep the future and possibilities it contains radically open. I argued that failure to identify these *a priori* assumptions is contributing to the lack of progress towards the paradigm shift which many involved in education think is necessary (for example see Sterling 2009 [2001], 2008, 2010a, 2010b, Orr 2004, Foster 2001,2011, Bonnett 2000, 2002, 2004,2012) if we are to live in more sustainable ways in the world. In this chapter I justify the methodological choice of adopting a theoretical approach to explore such *a priori* assumptions and to opening possible new ways to encourage emergence in education.

Such a theoretical choice is not necessarily a popular one in today's educational research climate with its strong focus on performativity and empirical measurement (for example see discussion in Biesta 2010a, Masschelein and Simons 2013). Moreover, it can be perceived that the urgency of change needed in the field of sustainability means that there is insufficient time to engage in theoretical research. In this chapter I explore why theoretical work is both an important and a timely undertaking which can make a contribution to education and sustainability.

In this chapter I first of all consider the relationship between educational theory and practice. I then explore how different constructions of educational theory allow for different foci, and the value of adopting an approach to theory arising from a 'continental tradition', in particular the approach called *geisteswissenschaftliche Pädagogik*. This approach, which Waldow (2008:73) comments can be approximately translated as 'pedagogy as a humanities subject', emphasises education as a subject in its own right rather than

education as an object to be studied through the lens of existing disciplines such as philosophy, sociology or psychology. I then consider how theorising can be understood as an experiential creative process emphasising thinking in new ways - developing new logics. I examine the role of both writing and other forms of creativity in this process. I discuss feminist thinking which can help to identify existing patterns of solidified metaphors and explore ways to replace such solidified metaphors. Finally, I consider the issue of validity in theoretical work including the value of exploring how what one is writing adds to existing traditions and thereby changes them and also the value and validity of intuition as well as analysis in the process of theorising.

3.2 Challenging the notion of practice as a 'handmaiden to theory'

Doll (1993:162) provides an interesting perspective on the relationship between educational theory and educational practice, challenging the 'habit of mind' of seeing educational practice as the 'handmaiden of theory': a place to test out empirically theories which have been developed conceptually outside educational practice. Such an approach/understanding arises from a scientific or modernist approach which began to emerge in the Western world in the late medieval and early Renaissance period and which continued to develop in the centuries which followed finding expression for example in Newtonian and Enlightenment thinking, a development I explored in chapter two. Trueit (2005:31) highlights how this period in Western philosophy/thinking marked a transition to a rational discourse, an 'expression of knowledge as a reasoning practice upon the world', from a previous discourse of 'patterning - a discursive exchange within the world' (Reiss 1982:30 cited in Trueit 2005:31). Drawing on a 'patterning' approach to education research allows for ideas to develop in and through a discursive exchange in and between practice and theory where theory is understood as a *poietic* (creative) potential within such discursive exchange. In such thinking educational theory does not sit outside or precede practice based on making rational arguments to then test out or inform in practice. Instead it becomes part of the discursive exchange - a recursive, non-linear activity through which connections between the ideas can potentially emerge, opening the possibility of new ways of thinking the world and questions

and challenges which arise there. The AHRC funded project *Connected Communities* is an example of such a recursive exchange¹⁵. This large project aims to develop knowledge recursively with a variety of academic (university-based) and community partners which range from charities and local authorities to small community groups. Educational 'sites' are recognised as taking place within these diverse settings as well as more traditional settings associated with education. Development of theory, for example in university research departments, both responds to and is informed by knowledge and experiences in the community and community knowledge development is facilitated by theoretical knowledge which has been developed recursively with the community. It is in this spirit of 'patterning' and recursive development which responds to questions arising in and through education that a theoretical approach is adopted in this thesis.

Biesta (2011, 2015) highlights the contribution that a 'continental' approach to educational theory built on the German idea of *geisteswissenschaftliche Pädagogik* can make to this recursive process. This is therefore explored in the next section.

3.3 Asking educational questions: the contribution of *geisteswissenschaftliche Pädagogik*

Biesta (2015:13) highlights the current influence of technological expectations about education

which conceive of education in quasi-causal terms, that see the main role for research as that of discovering knowledge about the connections between inputs and outcomes, and with the ambition that education itself can ultimately be transformed into a predictable technology.

These expectations can for example be seen in trends towards evidence-based research and research which asks the question 'what works?' in education. (Biesta 2006, 2015). However, whilst 'what works?' does have a place especially at the practical level, Biesta proposes that educational research runs

¹⁵ See examples of the activities of the project at Connected Communities Festival 2014 film available at <https://www.youtube.com/watch?v=Dmp81M3bfGU>.

the risk of becoming 'uneducational' when other questions which explore what education is (the ontology of education) and what education should work *for* (the axiology of education) are left out. To explain further what he means by this claim Biesta draws on different approaches to educational research which have developed in the Anglo-American tradition, and the German-speaking¹⁶ continental tradition, in particular *geisteswissenschaftliche Pädagogik*, (which can be approximately translated 'education as a humanities subject' (Waldow 2008:73). In the Anglo-American tradition educational research generally developed through a focus on the practical preparation of teachers originally located in teacher-training colleges which became then part of universities in the twentieth century. Educational theory used in the practical preparation of teachers drew on knowledge from other disciplines to support research into education with education positioned as an object of study. Sociology of education, the philosophy of education, the psychology of education are examples of such an approach. However, in the German-speaking tradition, especially the tradition known as *geisteswissenschaftliche Pädagogik* education developed as an academic discipline in its own right, with its own fields of interest and theoretical ideas. In this tradition there has been much more focus on ontological and axiological questions about education – 'what is education for?' and 'what makes education educational?' and this drew on theoretical ideas developed within the tradition of education itself (Biesta 2015). The *geisteswissenschaftliche Pädagogik* tradition proposes that there is a distinctly educational perspective on engaging with educational phenomena and 'exploring what counts as education' (Biesta 2015:15). Education is understood as 'a discipline organised around certain normative interests which are concerned with what is called *Erziehung*. *Erziehung*, a term which came into the German language after the Reformation, is concerned with the influences which impact on the soul of the human being. Initially explored in religious terms in the Reformation, the notion of *Erziehung* was widened to include the secular scope of this issue. There have been various interpretations of the meaning and scope of *Erziehung*. Biesta (2011) cites for example the work of Hopmann (2007),

¹⁶ Biesta (2011: 190) comments that
the influence of this way of approaching the study of education is not confined to countries where German is the main or one of the main languages, but has also impacted on countries such as the Netherlands, Belgium, Denmark, Norway, Finland and Poland.

Groothoff (1973) and Oelkers (2011) but they all share a theoretical concern with the issue of the emancipation of the child through education, interpersonal interactions in the educational process and education as a place of being/becoming a human being. Inherent in the concept of *Erziehung* is a belief that an 'education organised around a normative interest in the emancipation of the child was best served by an academic discipline (education) that itself was emancipated from systems such as the Church, the State' (Biesta 2015:15) and the interests and standpoints of other academic subjects. In such a tradition it makes sense to ask the following: 'If sociology is asking the sociological questions about education, philosophy is asking the philosophical questions and psychology is asking the psychological questions, who is asking the educational (*Erziehung*) questions?' Biesta accepts that there is blurring/overlap between the two traditions, and both often share some roots (such as The European Enlightenment¹⁷) for the ideas which they explore. However, recognition of the differences in traditions in educational theory is important both for meaningful recursive exchange between them to take place and to ensure that the issue of what makes education *educational* is not left out of educational research. Education theory which explores the issue of 'what makes education educational?' is the area to which this theoretical thesis makes a contribution. Such theoretical questioning:

can be of tremendous practical relevance if it provides practitioners with different ways of seeing and talking about education (Biesta 2015:19).

Developing theoretical ideas which can give rise to such ways to see and talk about education is, I argue, itself a creative active process. I develop this point in the next section.

3.4 Theory as an active process

In this section I explore creativity in the process of theorising. I consider the role of writing and other creative arts, the role of what Masschelein and Simons

¹⁷ The European Enlightenment was a Seventeenth and Eighteenth Century movement which emphasised universal reason. I explore the Enlightenment in more depth in chapter five.

(2013) call 'publicity' in relation to thinking and also feminist perspectives and how they can contribute to the act of thinking.

3.4.1 Developing theory *through* writing and other creative arts

Richardson (1994:517) argues that rather than planning in advance all of what one is going to write, it is valuable to approach writing as a 'dynamic open-ended creative process' in which ideas can emerge. This brings to mind Lather's (2007) concept of 'getting lost' which values uncertainty in approaching the development of theoretical ideas. Fotheringham (2013:1) explains how the creative potential of getting lost arises from the possibility that:

When a person exists in a space that is unfamiliar, where they are vulnerable and exposed – a place not of knowing but of surrender, of reduced power - this is perhaps when naturally the opportunity to see or understand something different surfaces (Fotheringham (2013:1).

In addition to standard academic writing styles which can be informed by an open-ended dynamic writing process Richardson (1994) and Nuyen (1995) also argue for the creative potential of expressing theoretical ideas using different media such as poetry, prose and drama or sometimes rewriting existing text into these other formats. These varied forms of expression can be 'woven into' the more traditional analytical academic approaches, making apparent some of the (hidden) values which particular forms of writing contain. An example of such a (hidden) value is contained in the academic style of writing in the third person. This seeks to remove the writer (and any hint of 'emotion') from the text, even though, feminists would argue, this is neither possible nor desirable.

Barr and Griffiths (2004) cite the work of Rath (1990) as an example of inserting a different format within an overall traditional academic piece of writing to convey the emotional element of research data. Rath (1999) was researching the evaluation of rape counselling training. Barr and Griffiths (2004:20) describe how:

A major part of the project of creating the thesis was taken up with her exploration of ways she could find to work with rape counsellors to express what it means to do the job. For instance, rather than present their words as short quotations as is usual in qualitative research, she turned [the counsellors'] words into poetry (keeping the words and the order, and working closely with the women).

Rath's experimentation with different writing formats and the creation of the poems became 'powerful evocations' of the experiences of working as rape counsellors which enabled both the development and sharing of ideas in academic settings and rape counselling centres.

This discussion of the contribution of the process of writing to the development of theoretical ideas can be broadened out to explore the contribution that can be made through engaging in/with other creative arts. Research in the field of neuroscience using MRI scanning (for example see Moore *et al.* 2009) is demonstrating ways that engaging in various arts-based practices or art appreciation uses certain areas of the brain which can then allow creative insights to emerge in other areas of the brain and can assist in the development of new ways of thinking. An example of such an activity is shown in Figure 6. This shows participants (myself included) of the community-based *Trembling Grass: Writing with Nature* Eco-Poetry Workshop, Exeter, led by the poet-artist Camilla Nelson in October 2014 (see Figure 7). The rationale of this workshop was that *through* engaging in art, poetry and writing with the natural artefacts themselves, new ways of thinking about conflict resolution, especially in regard to the sharing of the resources nature provides, can emerge and be explored.



Figure 7: Participating in *The Trembling Grass: Writing with Nature* EcoPoetry Workshop 25.10.2014

Source: Elizabeth-Jane Burnett - <https://twitter.com/ejbpoetry>,
(Reproduced with permission).

In this thesis I express ideas in academic writing (which have been developed through writing and wider creative engagement) and also draw on poetry and various art works to draw out meaning and engage with the text through both rational arguments and emotional engagement.

3.4.2 Publicity and the recursive development of theoretical ideas

Another important aspect of developing theoretical ideas through a recursive process is what Masschelein (PESGB Online) and Masschelein and Simons (2013) call making public or 'publicity'. They emphasise that researchers and teachers do not develop or learn theoretical ideas that they then 'teach' to their students or share with other researchers. Instead the ideas emerge in and through the process of 'making things public and gathering a public around these things as a time of public study and thought' (PESGB Online). The *Connected Communities* project, and its discursive approach to developing knowledge which I outlined earlier in this chapter, provides an excellent example of the approach proposed by Masschelein and Simons. Theory emerges through an interactive and public process and thus cannot be understood as something which exists outside of action itself. Further ideas of Masschelein and Simons, for example how they draw on the Ancient Greek idea of *skholé*, are explored in chapters five and seven of this thesis.

3.4.3 Metaphor and the possibility of emergence of new ways of thinking about the world

Barr and Griffiths (2004:14) highlight the problematic role of metaphor and traditional meaning (often gendered or and containing power structures) in the recursive process of developing theoretical ideas, commenting:

It is our belief that traditional meanings and sedimented metaphors restrict and contain and that the time is ripe for new thinking which will open up rather than close down possibilities for the creative development of new understandings of the world (as well as practical solutions to urgent problems).

They highlight that 'feminists have been amongst those who are most interested in "freeing up" old patterns of thinking, behaving and relating (2004:16)'. To illustrate this point Barr and Griffiths cite the work of Lakoff and Johnson (1990). Lakoff and Johnson highlight how much everyday language that we think of as literal, or cut and dried, is actually formed from what they call root metaphors

such as 'time is money' and 'argument is war' (think of 'defending a thesis [argument]', 'winning an argument'; or 'crushing the opposition in an argument'). Such metaphors solidify and infiltrate everyday thinking. Grimshaw (2000 cited in Barr and Griffiths 2004:15) explores how it is possible to 're-metaphorise' the familiar in relation to the solidified metaphor 'argument=war' by using the alternative metaphor of 'argument=horticulture'. Imagine experimenting with statements such as 'we need to water this argument'; 'this idea needs pruning'; 'these ideas need putting into the sunlight'; this theory won't be ripe until the autumn' or 'this book doesn't have enough roots'. Such imagining in developing an argument allows for the possibility that within the existing historically and politically situated language a space can be opened up in theoretical work for conscious experimentation and for the possibility of the emergence of new organic and cooperative ways of thinking about the world.

3.5 Validity in theoretical work

Having explored the need for, and possibility of, the emergence of new logics for engaging with the world - the question still remains as to the validity of such new ways. Validity lies not in experiments or data gathering in this kind of research. Rather, it is through taking responsibility for one's own words, for the act of authorship - which words and ideas are chosen and which are not - that the authority (validity) of what one is saying emerges. Richardson (1990:27), drawing on the ideas of Foucault (1990), highlights how from a post-structural perspective there is no 'view from no-where' standing outside of research. Instead each author:

Speaks as a person with a point of view: an embodied person responsible for his/her own words.

This is not to say that 'anything goes' in 'authoring' (in the sense of writing with authority/validity) a text with no regard for previous thinking. 'Taking responsibility' for one's own words' is a serious undertaking. The political thinker Hannah Arendt (2006b [1961]: 94) provides a helpful insight here. She argues that as one develops an embodied 'point of view' and 'authors' a text one needs to both be aware of how one's idea fit with exiting frameworks and traditions

and also take account of how what one is writing is adding to that tradition/foundation. She comments that this is important, as otherwise 'With the loss of tradition we have lost the thread which safely guided us through the vast realms of the past' and 'the dimension of depth in human existence' (94) which 'the act of remembrance can create' (94). However, Arendt argues, it is also through exploring how 'this thread was also the chain fettering each successive generation to a predetermined aspect of the past' that the possibility arises that 'the past opens up to us with unexpected freshness and tell us things which no one has yet had ears to hear'. Through this possibility something new can emerge in the world, something which did not exist before. The existing tradition then becomes different from what it once was: a new, enriched (augmented) tradition, and the author fulfils a role as *auctor*¹⁸ - an augments of the tradition without being fettered by the tradition. Moreover, this is an:

open-ended augmentation of the [tradition] rather than something that comes through (competitive) striving for a preconceived goal positioned in the future (Osberg 2012:5).

Biesta's (2011, 2015) engagement with the different traditions in educational research discussed at the start of this chapter highlights the value, in a climate dominated by technocratic approaches, of engaging with the German-speaking tradition of *geisteswissenschaftliche Pädagogik*. Such engagement opens the possibility that new ideas which foreground ontological and axiological questions about education can emerge.

The philosopher Bergson also provides some interesting insights for theoretical research. He argues for the importance of intuition both as a method and a source of validity in research. For Bergson (1912:159) intuition encourages us to experience something deeply and as a whole, entering into it with 'sympathy' rather than going around it from the outside. He contrasts this with an analytical approach in which one breaks things down into separate parts. One then analyses these and finally rebuilds them, through a process of synthesis, into what one *thinks* is a whole. Bergson argues that this approach prevents us from ever fully experiencing something as a whole. He argues that since our intelligence does not work in a disinterested way, but instead analyses things as

¹⁸ From the Latin *augere*-to *augment*, *enrich* or *add*.

they are of use to us, when we rebuild these parts back into a 'supposed' whole we only have a partial understanding as the parts which were not in our analysis are lost (Lawlor and Moulard Leonard 2016). An analytical approach is so much a 'habit of mind' in many academic circles that this is considered the *only* way to research, but Bergson does help us to think otherwise. It can be argued that an analytical approach is more dominant/habitual in an Anglo-American tradition, rather than in continental philosophy 'metaphysical in intent'¹⁹ (for example see Douglas 1975:153). Bergson's conception of intuition does not seem so strange, perhaps, if one has been brought up within a continental tradition. As a researcher I acknowledge my position as one who has been brought up academically and culturally in a French continental tradition. This is something I was not particularly aware of until I began my PhD, such was my own 'habit of mind'.

Recognising the possible role of intuition raises the question of what intuition can contribute to this research. My engagement early in the research process with the work of Arendt provides an example. Although I could not have fully explained why, I had a strong intuition that her writings had something important and interesting to say to those engaged in the field of education and sustainability. My intuition came, for example from Arendt's focus on *amor mundi* (love of the world) and her emphasis on politics as enabling 'natality' – emergence of new ways of being, knowing and acting in the world. It also came from her awareness of how, as teachers and students, we are poised *Between Past and Future* (2006) (the title of one of her collections of essays). Engaging with Arendt's work intuitively - experiencing it deeply and as a whole, entering into it with 'sympathy' rather than going around it from the outside - enabled me to appreciate the central themes which emerge across and unite her various texts. This sympathetic engagement with Arendt's work as a whole opens up the possibility of fresh thinking, for example, in my discussion in chapter six of immanent ethics in relation to her body of work.

In this chapter I have aimed to show how carrying out a theoretical thesis is both a valid and active process for research in the field of sustainability and

¹⁹ Although a false binary between these different ways of thinking is to be avoided (for example see Nelson, L.H. 1995) it can be argued that such differences do exist as part of a spectrum rather than two separate approaches or traditions.

education. It is important to note, however, that this is not to set theoretical work in opposition to other approaches to research. Latour (2004) suggests that this is a time to unite around 'areas of concern' rather than engaging in debates about whose approach or knowledge is correct. The environmentalist O'Riordan and the climatologist Lenton (2013) emphasise the importance of contributions from all disciplines and approaches to the issue of building sustainable ways to live in the world. They argue that this will require 'both profound shifts in social outlooks and associated adjustments' There *is* a place for theoretical work in the field of education for this important endeavour.

Having established a role for theoretical research this then raises the question of what theoretical frameworks should be used in the thesis. In chapter four I argue that a theoretical approach drawing on complexity and complexity-compatible thinking, with its focus on emergence of the new, is a suitable framework. In addition, I explore briefly the contribution of engaging in feminist thinking which, along with complexity and complexity-compatible thinking, seeks to 'open up rather than close down possibilities for the creative development of new understandings of the world' (Barr and Griffiths 2004:14).

3.6 Summary of chapter

In this chapter I have explored the value and practice of undertaking theoretical research. I have argued that theoretical work can help to mitigate the danger that, in an educational culture which emphasises the question of 'what works' ontological and axiological questions about the nature and purpose of education can be left out. I explore how different education traditions provide different foci and how this can enable fresh ways to explore education to emerge. I argue that theorising is an active process. I discuss the issue of validity in theoretical research including the relationship between new ideas and existing traditions. I propose that both intuitive and analytical thinking are important for the process of theorising. I conclude that theoretical research is an important contributor to the wider body of both theoretical and empirical work needed for an educational process which takes the issue of sustainability seriously.

Chapter 4 - Theoretical frameworks used in the thesis

Perhaps the immobility of the things that surround us is forced upon them by our conviction that they are themselves, and not anything else, and the immobility of our conceptions of them.

Proust 1983:6

4.1 Introduction

Having established the importance of theoretical educational research in chapter three I introduce complexity theory in this chapter as the key theoretical framework used in this thesis and provide a rationale for its selection. I begin the chapter by exploring the ideas of Heraclitus and what these can mean for understanding the possibility of a world in flux. I then provide an overview of complexity thinking, including how these ideas link to those of Heraclitus. I explore how the ideas in this chapter can contribute to the posthumanist and posthuman thinking introduced in chapter two and what this can offer to education, particularly education which wishes to enable education to fulfil its fundamental role of enabling a human being to emerge into something different than he/she currently is. I trace ideas from complexity theory back to Bergson and his understanding of time and creative evolution. I also consider how feminist thinking can contribute to the theoretical framing of this thesis.

These frameworks are then 'put to work' in chapters five, six and seven to explore the role and facilitation of emergence in education, especially education engaging with the issue of sustainability.

4.2 A World of flux

Graeber (2001) has suggested that the Western understanding of the natural world lies in the dominance of a Parmenidean rather than a Heraclitean way of thinking. This is a relevant starting point for exploring complexity theory as Heraclitus (2003 [500 BCE]) understood the world as a place of flux and

emergence. Flux and emergence are essential aspects of complexity theory and, as I have already introduced in this thesis, essential for the paradoxical notion of sustainability and for all education.

Heraclitus, writing in 500BCE, drew from, but also stood in contrast to, his neighbours and predecessors the Milesian material monist philosophers such as Thales, Anaximander and Anaximenes (Graham 2015). The Milesians proposed that the world was formed from some universal fixed, unchanging 'stuff' such as air or water that is the basis of other things. The Milesians understood change as variations of this basic, underlying, material 'stuff' which is, in its own nature, unchanging (Cohen 2016). Heraclitus (2003 [500BCE]) reversed this: change is what is real. What is experienced as permanence is only apparent, a pattern in a world which is constantly in flux, emphasising the process of change. Perhaps his most famous example of flux and patterns, loosely translated is 'You never step in the same river twice'. The river is a pattern, but the water within it is constantly in movement.

In his work Heraclitus (2003 [500BCE]) uses the *metaphor* of fire (he was not suggesting that the world was composed of fire) to represent change or flux, stating:

That which always was,
and is, and will be ever living fire,
the same for all, the cosmos, made neither by god nor man
replenishes in measure
as it burns away (Fragment 20).

Patterns are 'held together' through constant tension between opposites. In one sense there is the succession of the opposites, or contraries, such as night following day, death following life:

By cosmic rule,
as day yields night,
so winter summer,
war peace, plenty famine.
All things change.
Fire penetrates the lump of myrrh, until the joining
bodies die and rise again
in smoke called incense (Fragment 36).

However, there is also a sense in which Heraclitus' idea of a unity of opposites involved more than just the succession of opposed states that occurs in cases of change. He suggests that:

The cosmos works by harmony of tensions, like the lyre and bow.
(Fragment 56).

Cohen (2016) suggests these fragments could illustrate 'a kind of opposition in which the opposites are simultaneously compressed in a single object.' Barnes (1982:193) explains Fragment 56 as follows:

the tension in the string of a bow or lyre, being exactly balanced by the outward tension exerted by the arms of the instrument, produces a coherent, unified, stable and efficient complex. We may infer that if the balance between opposites were not maintained, for example if 'the hot' began seriously to outweigh the cold, or night day, then the unity and coherence of the world would cease, just as, if the tension in the bow-string exceeds the tension in the arms, the whole complex is destroyed.

The bow appears to us to be static, but it is in fact dynamic. Cohen (2002:1) suggests that 'Beneath its apparently *motionless exterior* (my italics) is a tension between opposed forces' – a dynamic cohesion. To cite Heraclitus:

From the strains of binding opposites comes harmony (Fragment 46).

Parmenides, on the other hand:

took precisely the opposite view: he held that it was change that was an illusion. For objects to be comprehensible they must exist to some extent outside time and change. There is a level of reality, perhaps one that humans can never fully perceive, at which forms are fixed and perfect (Graeber 2001: 50).

Graeber argues that it was the Parmenidean view which became dominant in Hellenic thinking and, through the ideas of Pythagoras and Plato, continues to be very influential on mathematical, scientific and Western philosophical traditions and understandings of the world. This has ultimately led to a Newtonian mechanistic understanding of the world. In such a worldview, a system, irrespective of the number of changes it undergoes, can return to its original state. Although this understanding might work in mechanically organised systems it cannot explain all areas of the observable world. The world is not a clockwork mechanism. In the natural world 'open systems do

interact with their environment, changing themselves and their environment in the process' (Osberg and Biesta 2007:49).

Alternative viewpoints, with a more Heraclitean understanding of the world, are now coming to the fore, for example in process philosophy (Whitehead 1929, 1968 [1938]), the writings of Bergson (1912, 1960 [1910], 1992 [1946]), process economics (see discussion in Nelson 2002) and complexity thinking. These interconnected/overlapping ideas offer important ways to explore a world in flux. In this thesis I use complexity as a theoretical framework. In the next section I introduce the particular features of complexity theory, differing understandings of complexity thinking, and the rationale for choosing complexity thinking (rather than other conceptual explorations of flux and process) as a theoretical framework for this thesis which explores education and sustainability.

4.3 Complexity theory

4.3.1 Introduction to the concept

Complexity theory, to cite Mason (2009:119):

concerns itself with environments, organisations or systems that are 'complex' in the sense that very large numbers of constituent elements or agents are connected to and interacting with each other in many different ways. This interaction causes organisation and reorganisation and if sufficient or critical level complex interactions are allowed to develop, new and sometimes surprising patterns and structures can emerge which are more than the sum of their parts. It is this notion of emergence, and the conditions required for it to take place, which is of central interest to complexity theorists.

It would be incorrect, however, to believe that all understandings of complexity and emergence are the same (for example see different treatments in Alhadeff-Jones 2008, Horn 2008 and Osberg 2015). Moreover, the different understandings have important implications for education. One such important difference is what Chalmers (2002, 2006), Osberg (2005) and Osberg and Biesta (2007) call 'strong' and 'weak' understandings of emergence. To understand these distinctions, it is first of all necessary to trace the origins and development of complexity theory.

Osberg and Biesta (2007: 32) suggest that:

In most standard accounts of the history of the concept of emergence (e.g., *Stanford Encyclopedia of Philosophy*), the term is said to have been coined by G.H. Lewes (1875) to differentiate between chemical products that could be logically derived from their constituents and those that could not. He called the former “resultants” and the latter “emergents.” Following this formulation, the philosophy of “emergentism” began taking shape, mostly led by the British emergentists including Lewes, Broad, Morgan, and Alexander.

A key feature of emergents is novelty. Emergents are made up of substances which are more than the sum of the parts from which they have emerged. They come into being for the first time and cannot be predicted from the constituent parts from which they arose. Something new exists in the world and the processes which created these emergents cannot simply be reversed. This introduces a unidirectional ‘arrow of time’ into scientific understanding. This was an important step since it offered an alternative to the mechanistic view of a world built on Newton’s mechanical laws and their reversible understanding of time.

The issue of novelty, of the existence of something radically new which did not exist before and could not be predicted from the ground from which it arose, was highly problematic for science at the turn of the twentieth century. Such ‘vitalistic’ conceptions ran counter to an increasingly deterministic view of science dominated by causal relationships. However, work in the fields of non-linear mathematics and complexity science over the last three decades has created a renewed interest in the field of complexity although, as I have already noted, differing understandings of the nature of emergence in complex systems have also arisen. Complexity science and non-linear mathematics have developed an understanding of emergence which can be reconciled with deterministic logic. Novelty does occur and this cannot be predicted in practice in advance. However, once the novelty has emerged it can then be traced to the logical, deterministic rules which have created the novelty (Holland 1998). The system would reproduce the same novelty if the system were ‘run’ again. Thus, at least theoretically, the novelty is predictable *a priori*. It is this understanding of

emergence which Osberg (2005, drawing on Chalmers 2002) and with Biesta (2007) calls 'weak' emergence.

A different understanding of emergence is provided by the work of the chemist Ilya Prigogine. He was awarded the Nobel Prize for science in 1977 for his work researching novelty and emergence in 'far from equilibrium' open systems. These are systems open to influences or perturbations outside the system and where inputs and outputs of energy and matter are not evenly balanced. These perturbations create turbulence which shifts the system far from its existing equilibrium point. When sufficient turbulence is reached a process of self-organisation at the micro level occurs which creates:

a process whereby properties that have never existed before and, more importantly, are inconceivable from what has come before, are *created* or somehow *come into being* for the first time (Osberg and Biesta 2007:33).

The system 'jumps' to a new level of organisation, a new equilibrium. Prigogine calls the new properties in the system dissipative structures. A key feature of this process is what Prigogine (1983, 1997) calls 'points of undecidability' or 'bifurcation points' (see Figure 7). These are points where the system has to go one of several ways, and it is impossible to determine in advance what this will be. Repeating the experiment would not necessarily give rise to the same outcome.

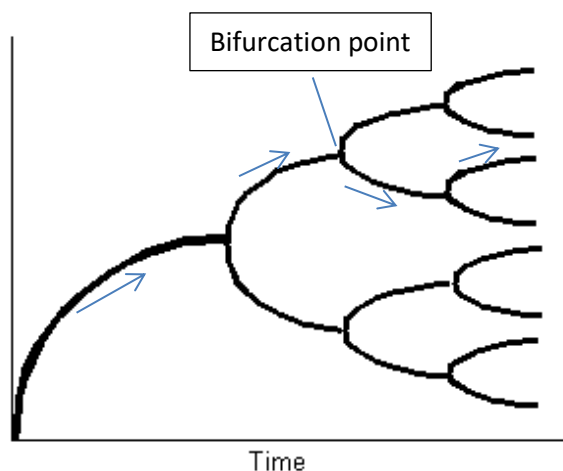


Figure 8: The development of bifurcations in far from equilibrium systems showing the unique path followed in an open system

Dissipative structures or emergents, understood in this Prigoginean sense cannot be predicted even in theory *a priori*. It is this understanding which Chalmers (2002, 2006) and Osberg (2005, with Biesta 2007) call 'strong' emergence.

An important influence on Prigogine's work was the thinking of the philosopher Bergson, particularly ideas expressed in *Creative Evolution* (1912). Osberg (2015) draws our attention to Prigogine's Nobel Prize acceptance speech in which he said:

Since my adolescence I have read many philosophical texts, and I still remember the spell *L'Évolution Créatrice* cast on me. More specifically I felt some essential message was embedded, still to be made explicit, in Bergson's remark 'The more deeply we study the nature of time the better we understand that duration means invention, creation of forms, continuous elaboration of the absolutely new' (Prigogine 1977: Online).

Central to Bergson's idea of time is the notion of irreversibility. Time, for Bergson, is *not* understood as a separate series of moments, as in the separate frames of a film which can be run forward or back, each one a blank waiting to be inscribed. Bergson's notion of time is one of irreversible time, characterised by a continuous flow or duration. He calls this understating heterogeneous time and comments that (1912: 4-5):

There is no stuff more resistant or substantial [*than time*]. For our duration is not merely one instant replacing another; if it were there would never be anything but the present – no prolonging of the past into the actual, no evolution, no concrete duration. Duration is the continuous progress of the past which gnaws into the future and which swells as it advances. And as the past grows without ceasing, so there is no limit to its preservation. Memory as we have tried to prove²⁰ is not a faculty of putting away recollections in a drawer, or inscribing them in a register. There is no register, no drawer...In reality the past is preserved automatically by itself.

This introduces the notion of material historicity into the life of a system over time. Osberg (2015: currently page 8) explains that material historicity:

²⁰ Bergson includes a footnote here referring to his work *Matière et Mémoire*, Paris 1896 chapters ii and iii.

relates to the fact that emergent processes are irreversible because their history of change operates as a material structural element that acts together with the structural elements to play a part in determining the system's future. Hence the system's history can be understood to have been 'written into' or embodied in the system's physical structure (for example see Holland 1998; Prigogine and Stengers 1984). In non-emergent systems (e.g. a clock or a rock) this is not the case; whilst their history describes their change trajectory, it does not function as a material element in their change trajectory.

Understandings of 'weak' emergence such as that of Holland (1998) explain the material historicity of emergent systems by the non-linearity of *deterministic* rules. As I introduced above, the path chosen cannot be predicted in advance but can be identified *post hoc* and if the system were run again the same outcome would be observed. In contrast, 'strong' understandings of emergence introduce an understanding in which the 'chance' pathways selected by the system at a point far from its equilibrium state create a material historicity which is always novel and if the event were run again a different outcome would be possible. In such a logic not only is a system different from other systems external to it, it is also capable of becoming qualitatively and unpredictably different from earlier iterations of itself. Inherent in a system is the potentiality of emergence and change with no pre-set correct one way forward even when considered retrospectively.

Just as Bergson's ideas have opened up new ways of thinking in science, they have also found expression in literature - providing another way into exploring his ideas. For example, Proust, who knew and admired Bergson and was married to Bergson's cousin, explores ideas of time and duration in his *A la Recherche du Temps Perdu*²¹. Bowie (1998:33-34) suggests that 'From first word to last, Proust's novel is about time' arguing that through reading Proust one becomes aware that:

The living present of an individual's experience is put together from residues of the past and conjectural glimpses of the future, but even 'past' and 'future' sound too conceptual, too thought-about, for the rough and tumble of lived time, which can be made from whatever materials are to hand.

²¹ Literally translated and more recently published as *In Search of Lost Time*, but originally published in English under the title *Remembrance of Things Past*.

Perhaps the most famous example of this is the story of Swann drinking tea containing crumbs of madeleine cake. (*Volume 1: Swann's Way: Within a Budding Grove*). He was feeling low and cold before drinking the tea but this action filled him with an actual sense of happiness which he could not at first explain. When he consciously tried to recall an explanation he could not. Then it came to him that, as a child, he used to visit his aunt on Sunday morning. She gave him such a cake dipped in her own tea – at a time in his life associated with a happy experience. The sight of these cakes had not brought back these memories, rather the combined taste of the cake and tea rekindled this joy as an actual lived experience for him in the present.

Central to Bergson's thinking is *élan vital*, which he explains as:

the explosive force - due to an unstable balance of tendencies -which life bears within itself (1912:103).

For Bergson, *élan vital* provides a way to understand the 'driver' for the emergent change which is a key feature of 'strong' emergence. Vaughan (2007) argues that for Bergson and other vitalists there is a 'fundamental irreducibility of life to matter'. However he goes on to explain how for Bergson, unlike for some vitalists, this *élan vital* is not some kind of separate force or spirit planted inside the materiality of things in the world – something distinct from physiochemical forces which cannot be understood mechanistically. For Bergson the *élan vital* is an intrinsic part of something's materiality, but it is something irreducible to mechanistic understandings. As Vaughan (2007:16-17) explains:

Elan vital then, does not simply signify a force different in kind to material forces. It signifies a force different in kind to *matter conceived mechanistically* (original italics) and this force is nothing more than that very same matter conceived intuitively: as active, creative, as itself vital - the very qualities that a mechanistic materialism effaces when it isolates superposable parts and treats as quantifiable and repeatable what is continuous qualitative change (16-17).

The ideas of Heraclitus, Bergson and complexity thinking such as that of Prigogine - explored in this section provide a different logic to understand the world: a 'logic of flux' and potentiality (Osberg 2015, Chave 2015, 2016) exploring both the spatial interconnections and temporal interconnections of life.

This raises the question of what such a 'logic of flux' can mean for the process of education.

4.3.2 Complexity thinking and education

In chapter two I explored the growing interest in systems thinking in education for sustainable futures. This interest in systems thinking points to the suitability of using complexity theory as a theoretical framework in this thesis as a way to engage with a world in flux. There is an increasing awareness of the interconnection between different aspects of the world and how these form part of a 'whole' system. However, there is a danger of only understanding such systems thinking within a spatial logic. In a spatial logic the emphasis is on how the different aspects of the system interconnect with each other in terms of their *position in a space* such as 'in the world'. As I have discussed in the previous section, what a logic built on complexity theory offers is a systems thinking which explores how systems interconnect with each other both spatially and also *over time* and into which *novelty can emerge*. Moreover, such novelty becomes part of the material historicity (a term I explained in the section above) of the system and therefore cannot be understood mechanistically as something which can be reversed. Davis, Phelps and Wells (2004: 4) argue that bringing such a logic, which draws on complexity theory, into education allows for the possibility that education can be:

about enlarging the space of the possible as opposed to the popular conviction that education is about replicating the existing possible.

'*Enlarging the space of the possible*' is highly relevant to education and sustainability which seeks to find new ways to live and act in the world. Drawing on complexity theory as the theoretical framework in this thesis is therefore a highly appropriate theoretical framework to adopt.

4.3.3 Implications for education of adopting a logic informed by complexity theory

There are a number of implications for education and educational research informed by the logic of complexity theory. Firstly, understandings of what constitutes knowledge are challenged. If one accepts a line of argument in

which education is highly complex, messy and unpredictable, operating in what could be called strongly emergent open systems:

Knowledge is neither representation of something more 'real' than itself, nor an object that can be transferred from one place to the next. Knowledge is understood, rather, to emerge as we human beings participate in the world (Osberg and Biesta 2008:313).

Furthermore:

every meaning that emerges is uniquely new, something which has not been in the world before, and cannot be predicted from the ground from which it emerged (Osberg and Biesta 2008:313)²².

It then follows that if knowledge and education are seen in this way it is necessary to identify and organise opportunities for this kind of emergent learning to take place. Education is no longer about moving knowledge from one place to another (usually from the teacher to the student) but creating a setting where learners are active participants in the making of emergent meaning.

Secondly, in a logic informed by complexity theory and the possibility of 'enlarging the space of the possible', rather than a 'curriculum for survival' (see for example Curren 2008), the possibility of a *curriculum for potentiality* opens up. Osberg (2015) identifies different approaches to the argument for adopting such a logic of potentiality within education. She identifies that some theorists who engage with Deleuzian²³ approaches to potentiality emphasise immanence. This draws on Bergson's theme of the 'uncontrollable yet profoundly life-generating nature of "irreversible 'becoming'" (Osberg 2015:35). In such a framing:

education and learning is conceptualised as becoming and the pedagogical task as a 'pluri-vocal endeavour in which explanation is replaced by 'presentation of ideas' as the pedagogue works 'to intensify connections in actuality while seeking to release new potentiality' (Semetsky and Masny 2013:16) (35).

²² In the introduction I used this quotation as a definition of the 'radically new' and in this thesis the word 'radical' is used in this sense.

²³ Osberg uses the term complexity-compatible thinking to describe theories and ideas which whilst not identified as complexity theory are compatible with it and sometimes share some of its historical sources. Such is the case with Deleuze who, through his book *Le Bergsonisme*, helped rekindled interest in Bergson within academia.

Braidotti (whose thinking I introduced in chapter two), identifies her thinking as 'a branch of complexity theory' (Braidotti 2013:189) in this Deleuzian trajectory which emphasises immanence. Braidotti's understanding of *zoe* is a restatement of Bergson's conception of *élan vital* - the vital life force contained within life itself. I explore Braidotti's conception of nomadic subjectivity in chapter seven.

Other Deleuzian thinkers indicate that the emphasis on potentiality in the Deleuzian trajectory introduces a 'time dimension of later when learning is put into practice' (Semetsky and Masny 2013:16). In such a framing a genuine education:

is characterised by a transcendent movement of change, as much as being immanent to experience and events (Semetsky and Masny 2013:16 cited in Osberg 2015:35).

Another line of complexity-compatible theorising of a curriculum of potentiality follows a Derridian line of thinking (see for example Osberg 2005, 2010, and with Biesta 2007, 2008). This trajectory builds on Prigogine's notions of 'undecidability' and bifurcation.²⁴ In such a viewpoint the emphasis is on:

The moment in which choice [of the system] is undetermined - the moment of free play - is the moment in which agency becomes possible (Osberg:2015:35).

Since the moment is 'undetermined', it is not being informed or constrained by notions in the present such as survival. The choices made transcend and are superfluous to the present and ideas in the present, thus making thinking 'the unthinkable' possible. Osberg suggests that whilst learning about survival *is* important, and has an important role within education, it is not 'all there is to learning' (36). Learning can also be about:

the free play of ideas an experimental attitude in which multiple possibilities present themselves *as equal possibilities* with no predetermined 'best' solution (even in retrospect) (36).

The future is understood to be 'radically open ended, filled with creative and as yet unimagined potential' (36), an:

²⁴ When a system has a number of choices in deciding which way to go, and this cannot be known in advance, nor repeated.

understanding in which the truly creative - that which serves no immediate function, but for which a new function will ultimately be found - still has a place in our understandings of what it is to be human (36).

A link can be made here between Osberg's ideas and Facer's (2016) conception of a 'pedagogy of the present' which I introduced in chapter two, where the:

educational encounter is understood as constituting a distinctive temporality of its own, a temporality that is characterised by the intentional putting into play of the abundant materials that constitute and create futures, that keeps them intentionally open for exploration, and that expands and encourages the space to participate in that process (58-59).

The theoretical insights argued for in this thesis will draw on both transcendent and immanent understandings of potentiality and what such understandings can offer to education as a sustainable emergent process which can also be understood as a 'pedagogy of the present'. Such a hybridisation is not a weakness or confusion of ideas but rather opens the potential for new ideas which the bringing together of different ideas can generate.

An important implication for education, if we accept a line of argument in which education is a highly complex, messy and unpredictable process operating in strongly emergent open systems, is that the very issue of subjectivity – *what it is to be a human subject who acts in the world* – also needs to be left open since this too can no longer be assumed in advance. This challenges existing understandings of subjectivity – an important theme of chapter five where I develop ideas compatible with the post-humanist and post-anthropocentric thinking introduced in chapter two. In addition, the *intersubjective relationship* between the teacher and student changes as the teacher's role is no longer to transmit knowledge. The issue of intersubjectivity is taken up and explored in chapter seven, developing a line of thinking compatible with both the post-humanist and posthuman thinking which I introduced in chapter two. However, before beginning these explorations it is important to review and address some of the objections to drawing on a logic of complexity in education

4.3.4 Issues with complexity theory as a theoretical framework in education

There are some important issues and questions arising from this discussion of using insights from complexity theory as a theoretical framework. Firstly, as the

discussions of strong and weak emergence demonstrate, complexity theory has many facets or trajectories. These draw on different philosophical and scientific traditions with a potential for conflict to occur between proponents of these differing views. However, as discussed in chapter three, I would argue that this is the time to be aware of what Latour (2004) calls the need for theorists to gather around areas of concern and see what each perspective can contribute to the issue, rather than argue amongst themselves about the different points of view. Indeed, when different perspectives are brought together, whether these are differing ideas within a particular discipline or perspectives from different disciplines such as science, arts and philosophy, there is the possibility of emergence of the new. This is especially so if the ideas are discussed on the premise that all participants approach such activities on an equal basis. The CERN Institute²⁵, recognises the potential of such an approach in its Artists-in-Residence Programme Collide@CERN. Its director Arianne Koek, cited in a review by Kieniewicz (2013: Online) comments that:

The space of collaborations between artists and scientists is a 'troubled' area, where artists and scientists rarely stand on an equal footing as professionals. In an art/science collaboration, what is the role of the artist in relationship to the scientist? A basic premise of the Collide@Cern programme is to place artists and scientists on the same level.

The programme expects excellence from artists and scientists. It does not demand from artists that their work should only communicate the work of the scientists at the Institute to the wider public. Their role is also to be part of a wider creative endeavour, including assisting the scientists to look at and understand the world differently²⁶. Koek comments that to achieve this it is not enough 'to simply put an artist in the lab with a physicist and expect them to figure out how to play nicely.' Koek explains her role:

as a kind of producer-in-residence, working with the artist-in-residence and CERN's scientific community to facilitate 'creative collisions' (Kieniewicz 2013: Online).

²⁵ The European Organization for Nuclear Research and home to the Hadron Collider.

²⁶ One such activity organised by the artist-in-residence was a visit to some newly discovered tunnels/caves in the CERN complex. The artist-in-residence and scientists explored Plato's ideas of forms and shadows and how this still influences Western conceptualisation of the world.

This example is *not* provided as a 'blueprint' for action. Rather, it is an example of the possibility of working in unusual ways to explore areas of concern and *also* the possibilities that such approaches can open up.

Secondly, the focus on emergence of the new raises another important issue with using complexity frameworks within education – the issue of ethics. If the 'radically new' is allowed to emerge from a 'free play of ideas' – this raises the question of what can or should be done if the 'new' is deemed 'unethical' and who gets to decide. This important and challenging issue of ethics is explored in chapter six.

Thirdly, some theorists (for example see Hunter 1997, and with Benson 1997) argue that complexity frameworks do not add ways to understand education which are not already sufficiently explained elsewhere. They refer to recent developments in post-structural and critical theory, the ideas present in the work of Piaget and Dewey, and Whitehead's organic process philosophy. They argue it is unnecessary to have new theories for theory's sake. However, such a viewpoint can be countered in several ways. Firstly, Kuhn (2005, 2008) suggests that such thinking is unhelpful and evidence of 'boundary keeping': protecting one's own research interests in an academic environment which is set up in increasingly competitive ways. Such boundary keeping closes down rather than opens up new ways of thinking and knowing. Osberg (2015:36) argues that speaking of complexity and complexity-compatible theoretical approaches as a replacement to existing frameworks is to conceive of such approaches in too narrow a sense. She suggests that:

In referring to a 'complex' approach to learning one is not referring to a set of ideas that have been unified by complexity theory and which can, as some fear, be used indiscriminately to colonise existing theorisations of learning but to an ongoing and continuously hybridising movement.

Indeed, she argues that it is this hybridising of ideas which gives them much of their vigour. Hybridisation is at work in approaches discussed earlier in this chapter which draw on both immanent and transcendent conceptions of emergence, drawing as they do on Derridian and Deleuzian perspectives. It can also be seen in theorising which re-examines existing theoretical work through the lens of a complexity theory. In the 2008 Special Issue of *Educational Philosophy and Theory*, which focused on complexity theory and the philosophy

of education, a range of theorists and their ideas are explored and reinterpreted through the lens of complexity thinking. These include Tyler and Vygotsky (Doll 2008), Foucault (Olssen 2008) and Dewey (Semetsky 2008). Further examples of exploring thinkers through the lens of complexity theory include Osberg and Biesta's examination of Derridian notions of representation (Osberg 2005, with Biesta 2007, 2008) and Doll's (1993) discussion of new ways to conceptualise the curriculum using ideas drawn from Piaget and Dewey. In these examples logic drawing on complexity theory is employed to '*perturb*' (Davis and Sumara 2006) not to replace existing theorisations.

A fourth possible issue when proposing the use of complexity and complexity-compatible frameworks in education relates to the question of whether concepts from science and mathematics can so easily be transferred to the social sciences, including education. For example, Hunter and Benson (1997) argue that complexity theory has too deterministic an understanding to be valuable for exploring social interactions. They argue that suggesting that such deterministic scientific theories can explain and contribute to the educational process is misplaced. They cite behavioural models as an example of another such flawed endeavour. A review of their approach indicates that they are drawing on models of 'weak' emergence such as that of Holland (1998) which do indeed have such a deterministic orientation. 'Strong' understandings of emergence, as discussed above, do not have this deterministic aspect. Indeed, towards the end of their own article, Hunter and Benson (1997) do comment that the then more recent understandings of complexity such as that of Doll (1993) do demonstrate features of indeterminacy.

It is also possible to question the assumption that complexity thinking has simply been transferred from science and mathematics to the social sciences. Kuhn (2008:184) argues that to think that ideas develop in compartmentalised disciplines is too narrow. He argues that whilst some of the language used in complexity thinking may be borrowed from science and mathematics, new thinking which questions existing epistemological assumptions can arise simultaneously across many disciplines, each contributing and helping to shape the others. For example, he suggests that it could have been social science's explorations of the complexity and indeterminacy of human behaviour which

encouraged scientists to question their own understandings of determinacy and linear causality.

Finally, if we do accept that systems thinking and concepts of complexity and emergence are not just being used in education as a 'metaphor', this raises the question of which part of the educational process is being referred to: the societal or school level; the level of the classroom as a complex system or the learning process in the brain of each individual²⁷. If all of these are examples of complex systems this then raises the question of how these different understandings fit together. Hetherington (2012) suggests that one way this difficulty has been addressed in the literature is by the concept of nested complex systems (Davis and Sumara 2006). Smaller systems can be nested within a larger system. The concept of nested systems is also explored with literature on ESD/sustainable education for example in the work of Sterling (2009 [2001], 2003) and Strachan (2009:85) as shown in Figure 2 in chapter two. This demonstrates a potential 'good fit' between complexity research and research into education and sustainability. It is worth noting here, however, that understandings of 'nested systems' emphasise the *spatial continuity* of systems with an underlying conception of an inherently stable whole. In this thesis the focus is on the logic of *flux* and *temporal continuity* within a system. It is important to note that this is an extension to current ideas in systems thinking, not a replacement of them.

In this thesis I also draw on feminist thinking alongside complexity theory as a theoretical framework. In the following section I explore the reason for this and also argue for the compatibility between these theoretical approaches.

²⁷ Education research literature provides examples of research at these different levels. For example, Hetherington (2010) used the primary science classroom as the focus for her research. Cunningham (2001) employs a complexity 'lens' to examine and critique research on school improvement at the whole school level.

4.4 Feminist thinking and its importance for this thesis

Feminist research can be identified as sitting within interpretive theories of research. Vannini (2009: 557) defines interpretative theories as:

ontological and epistemological tools used in research concerned with understanding how individuals and groups create meaning in their everyday practices, communication, and lived experiences.

I argue that feminist and complexity approaches and understandings have the potential 'to sit comfortably' together with a shared emphasis on seeking openings and making (new) meaning. The discussions of Lather's (2007) conception of 'Getting Lost' and discussions of creativity in the writing process, both explored in chapter three, illustrate this compatibility. These discussions also recognise how feminist researchers do not attempt to stand as disinterested outsiders of the research process. They question whether such an approach is even possible. Instead they recognise the position of the researcher within the research process. At an epistemological level self-knowledge, explored and gained during the research process, is a valid part of knowledge rather than something to be swept away or to be kept hidden (Anderson 1995).

The idea of intuitively entering into an area, explored in the discussion of Bergson above, fits well within a feminist framework which recognises the values of intuition and 'entering into' the area researched. Bergson thinking can also be seen in the writing of feminist thinkers engaging with dynamic conceptions of subjectivity. For example, Braidotti's conception of *zoe* is a restatement of Bergson's conception of *élan vital* - the vital life force contained within life itself.

In this thesis I challenge what feminists, for example Haraway (1988), Merchant (1990), Mellor (1992, 1997), Braidotti (2011a, 2011b, 2013 a, 2013b) and Plumwood (1993, 2001) identify as male Eurocentric understandings of the subject (a challenging I discussed in chapter two). I explore the possibilities that posthuman and post-anthropocentric thinking open up. Such thinking disputes dualisms such as man/woman; reason/emotion; culture/nature; mind/body; activity/passivity; thought/matter; self/other; separate/connected; European/barbarian; human/non-human. I consider ways such questioning can contribute to education which takes the issue of sustainability seriously.

Topolski (2015:179) highlights how feminist thinking challenges philosophy's focus on being and singularity by emphasising instead what happens in the 'space between the "I and we"' and the possibility of a self which emerges through intersubjective encounters. This possibility is explored in chapter seven.

4.5 Conclusion and summary of chapter

In this chapter I have introduced and explored why complexity and complexity – compatible thinking as well as feminist approaches to theorising and writing are suitable frameworks for theorising education in this thesis. I have also explored and aimed to address some potential issues and concerns expressed in the literature relating to the use of such frameworks, particularly in the field of education engaging with sustainability.

From these explorations of complexity thinking, in particular 'strong' emergence (for example see Chalmers 2002, further discussed in Osberg 2005, and Osberg and Biesta, 2008), it does appear that undertaking research using this logic is a highly appropriate way forward. The logic's commitment to opening up new ways of knowing and learning is a fruitful way to explore the vexing issue of how can we teach and learn about caring for an unknown and unknowable future and also why we might want to do this. Insights from feminist thinking can assist in this project. Feminist ways of knowing and expression are adopted throughout the thesis and feminist insights are used to explore subjectivity in chapter five and intersubjective encounters in chapter seven.

Chapter 5. Conditions which make emergence for sustainability a possibility: A role for 'spaces of appearance'.

Action and speech create a space between the participants which can find its proper location almost any time and anywhere. It is the space of appearance in the widest sense of the word, namely the space where I appear to others as others appear to me... (Arendt 1974 [1958]:198-9).

5.1 Introduction

In chapter one I argued that concepts of sustainability and education for sustainability contain a paradox. To 'sustain' something is to 'cause something to continue for an extended period of time' (Oxford Living Dictionaries: English: Online). The paradox is that to 'sustain' something it must also be allowed to 'grow' into something different than it is. Moreover, it is not always knowable in advance what that 'something' will be. Emergence of the new is essential for sustainability. In this chapter, drawing on Biesta's (2006, 2010, 2013) 'pedagogy of interruption', I argue that the (European) Enlightenment's impact on the theoretical underpinnings of current educational practices hinders the emergence of new ways of being, doing and acting in the world. This then raises the question of whether this dominant framework can be interrupted and how this can be done. Biesta (2006, 2010a, 2013) argues that moments of interruption cannot be hardwired into education, for example, through aims and objectives. In this chapter I explore the possibility that moments of interruption nevertheless can be encouraged.

Firstly, I outline Biesta's argument for a 'pedagogy of interruption'. I then discuss Arendt's thinking on the *vita activa*, including her conception of 'spaces of appearance'. I argue that her conception of 'spaces of appearance' opens up possible ways to encourage 'moments of interruption' and the emergence of radically new ways of knowing, being and acting in the world essential to resolve the paradox inherent in sustainability. I then enrich the conception of 'spaces of appearance' by drawing on Mouffe and Rancière alongside Arendt. Bringing together these different thinkers is challenging, not least because Mouffe and Rancière have challenged Arendt in their writing. Mouffe challenges what she sees as Arendt's belief that a consensus on a way forward can be

achieved through dialogue. Rancière critiques what he perceives to be Arendt's emphasis on a category of what constitutes the political. I acknowledge these tensions and difficulties and explore fruitful ways forward. I argue that engaging with the work of these three thinkers does have a logic since they all engage, in their own particular way, with thinking about the emergence of human subjectivity in ways which are 'ruptural and inaugurative' (Dikeç 2013: 78).

Another important area I explore is whether it is even possible to draw on Arendt's notion of 'spaces of appearance' within education. For Arendt 'spaces of appearance' are enacted in what she calls 'the public domain' and, for her, education is not in this domain. Indeed, she argues that education should be protected from the public domain and also be a place of protection. I examine arguments around this issue of separation and protection. I then show how Arendt's positioning of education as a place between the private and public spheres and also the Greek notion of *skholé* offer significant ways to build on the notion of 'spaces of appearance' within education. Finally, I draw on Masschelein's (2011) and Masschelein and Simons' (2013) exploration of ways to encourage education as *skholé*.

It is important to note that this chapter focuses on a particular aspect of education - what Biesta (2006, 2010, 2013) calls subjectification - and also how subjectification and emergence are connected. Whilst education is a sphere for qualification (learning skills and knowledge) and also socialisation, it is also a sphere for subjectification. This is concerned with how individuals can act as independent subjects of responsibility. Biesta (2013:64) explains that for him:

Subjectification has an orientation toward emancipation, that is toward ways of doing and being that do not simply accept the given order but have an orientation toward the change of the existing order so that different ways of doing and being become possible.

The word 'subject' contains the notion of both one who acts (and has the potential to act in new ways) and also one who is acted upon, an issue which is explored in more detail later in this chapter. Biesta (2010a, 2013) emphasises that these are not separate domains within education but processes which can occur concurrently, albeit with different emphases. The reason I focus on subjectification is that this thesis explores approaches to enable emergence of new ways of being, doing and acting in the world and what this can contribute to

education for sustainable futures rather than the development of new knowledge in the area of sustainability, albeit the development of skills and knowledge is a very important area for research across disciplines.

5.2 Kant and the (European) Enlightenment's influence on current educational practices

In Chapter one I discussed the issue highlighted by Jickling (1994) and almost twenty years later by Sund and Grève-Lysgaard (2013) that despite discussions of educational methods and subject matter little attention is paid in the field of education for engaging with the issue of sustainability to *a priori* philosophical conceptions of education. This hinders the 'paradigm shift' in education called for by many sustainability educators (for example see Sterling 2009 [2001], 2003, 2010). It can be argued that Kant's conception of the Enlightenment with its emphasis on reason, autonomy and criticality (for discussion of this point see Biesta 20010a, 2013, Bonnett and Cupyers 2002) is such an *a priori* philosophical conception still widely influential today on education. Since education continues to be influenced by philosophical ideas, often in unnoticed taken-for-granted ways, I argue that it is important to draw on philosophy and what Biesta (2015) terms 'philosophical educational theory' to identify, examine and challenge these notions.

The (European) Enlightenment was a seventeenth and eighteenth century movement which emphasised universal reason. It was a reaction against the notion that 'the people' were incapable of understanding the world for themselves and indeed did not need to understand but just 'obey their 'betters' (God, the church, the Sovereign and the aristocracy). 'The people' were thus not free. The (European) Enlightenment argued that freedom from this position could be attained through universal Reason and that an individual had the capacity to use their reason autonomously. There were limits to universalism, however, as certain categories of individual, for example women and children, were excluded by some thinkers.

The (European) Enlightenment had a wide-ranging influence on political and cultural life from literature to political revolution. The allegorical drawing *Liberty armed with the Sceptre of Reason strikes down ignorance and fanaticism* illustrates these Enlightenment beliefs.



Figure 9 : *Liberté armée du sceptre de la Raison foudroie l'Ignorance et le Fanatisme*

Trans. *Liberty, Armed with the Sceptre of Reason, Strikes Down Ignorance and Fanaticism* (Engraving) (1793), Chapuy, J. B. (engraver) after Simon Louis Boizot (artist), Collection Michel Hennin.

Kant (1964 [1781], Online [1784]), a leading proponent of Enlightenment thought, defined Enlightenment as the release of the human being 'from his self-incurred tutelage' and defined tutelage as man's inability to make use of his understanding without the direction of another. Kant argued that man has the capacity to become a fully rational, autonomous individual and that this capacity is a fundamental part of human nature, part of his essence. Education (the

development of one's innate capacity to reason) is needed to bring a person to this state of freedom. Thus, education and freedom are intimately connected.

At first view, these seem worthy ideas yet they also give rise to significant issues. Firstly, whilst the focus on freedom brought ideas of what it is to be a human subject into the educational sphere it was a *certain type of subject*. As Biesta (2010) points out, what it is to be a human subject in the Kantian Enlightenment framing, namely, a rational autonomous person, has already been decided before anyone (child) actually appears and has a chance to reveal themselves. Children are to be socialised into this existing rational order. Secondly, autonomy and rationality are understood to be the natural capacities of a 'free' person. This introduces an essentialist notion of what it is to be human. Thirdly, within such a logic, children (and others such as women) are seen as pre-rational. Rationality is a state to attain as a destination of education.

As I introduced in chapter four, a logic informed by complexity and complexity-compatible thinking²⁸, on the other hand, asks that the question of what it is to be a human subject be left open. In such a logic there is the possibility that new ways of understanding human subjectivity can emerge and that new ways to disclose oneself as a unique person who acts and takes responsibility in the world are possible. Such a way of understanding human subjectivity has been developed by Biesta (2006,2010, 2013) in his 'pedagogy of interruption', an approach which aims to rupture the dominant Enlightenment framework where what it is to be a human subject is already decided and begin to inaugurate new ways of thinking. In chapter two I introduced posthumanist thinking as an important framing for this thesis. Biesta's 'pedagogy of interruption' can be understood as a posthumanist pedagogy, a pedagogy which seeks to 'do without humanism' (Biesta 1998:1). It is not, however, a pedagogy which 'comes after humanism or the end of humanism' (Pedersen 2010:242) in a chronological sense but one which opens up the possibility of asking in

²⁸ As introduced in chapter four, Osberg (2015) uses the term complexity-compatible thinking to describe theories and ideas which whilst not identified as complexity theory are compatible with it and sometimes share some of its historical sources.

educational settings 'fundamental ontological and epistemological questions' (242) about what it is to be a human subject.

5.3 Biesta and a 'pedagogy of interruption'

Biesta acknowledges that his 'pedagogy of interruption' can be understood as a new theory of education which has been emerging in his thinking over the last twenty years (Biesta 2013). For Biesta subjectivity is different from identity and far more interesting. He understands identity to have a sense of identification by someone and/or with something. It is thus a third-party perspective. In contrast, subjectivity is to come into being as a *unique* being whom no-one else can ever fully know or predict in advance - a challenge to the Kantian Enlightenment perspective outlined above.

He identifies two key features in this thinking on subjectivity – '*coming into the world*' and '*uniqueness*'. Drawing on the work of Jean-Luc Nancy, Biesta initially explored the importance of the idea of 'coming into presence' which for Biesta was:

a much more existential way to talk about the subject, one that referred to an *event* rather than an essence or identity, and one that expresses an interest in who comes into presence rather than an essence or identity that tries to define what is to come, ought to come, or is allowed to come into presence. The idea of coming into presence thus turned traditional educational thinking on its head by not starting from what the child is to become, but by articulating an interest in that which announces itself as a new beginning, as newness, as natality, to use Arendt's term. (2013:143).

It was from engaging with the work of Hannah Arendt (which is explored in more detail in the next section of this chapter) and also the architect Bernhard Tschumi, that Biesta then moved from an interest in 'coming into presence' to one of 'coming into the world'. For Arendt (1974 [1958]), coming into the world can never be in isolation, it must involve action in the presence of others.

Moreover, Biesta (2013:143) explains that:

If we are committed to a world in which everyone's beginnings can come into presence, we have to live with the fact - which is actually not a fact

but an articulation of what it means to exist politically (see Biesta 2010b) - that the ways others take up my beginnings are radically beyond my control. The very condition that makes my 'coming into presence' possible - the ways in which others take up my beginnings - also disrupts the purity of my beginnings, so to speak, as others should have freedom to take up my beginnings in their own way. Arendt's phrase 'plurality is the condition of human action' still captures this very well.

In this logic, subjectification - understood as 'coming into the world' - necessarily takes place in a public space of plurality and difference and is thus inherently political.

However, 'coming into the world' would not be enough on its own. For Biesta (2010,2013) uniqueness is also a key issue with regard to subjectivity. He explains that:

If we were only to have 'coming into the world' we would have an account of how the event of subjectivity occurs - a theory of subjectivity to put it differently - but we would not have an argument for *why* the subjectivity of each single subject might matter.

To explore this issue of why an event of subjectivity (subjectification) might matter Biesta draws on the work of Lingis (1994) and Levinas (1999 [1974]). He identifies two key ways to articulate uniqueness - uniqueness understood as *difference* (how we differ from other people, again a third party perspective) and uniqueness as *irreplaceability*. Uniqueness as irreplaceability raises a different question about our uniqueness. Instead of asking *how* I am different from others it asks instead *when* does it matter that I am unique. The answer to this is that it matters when I am being addressed, specifically, when *I* am singled out rather than it being a case of me as but one representative of the rational community, me in my social role or identity. In a call where I am irreplaceable, such irreplaceability brings with it a responsibility for the other making this call. Whether we take up this responsibility is entirely up to us. It is an ethical situation and also an existential one, based on an event. It claims 'nothing about what the subject is - just about the situations we find ourselves in' (2013:145). Our uniqueness is revealed as an event, rather than an essence which an individual possesses.

Biesta (2013) argues that subjectivity understood as 'coming into the world in our uniqueness' does not fit into an understanding of education in an

Aristotelian sense of *poiësis* - an education as production - for example the production of certain learning outcomes. Just as we cannot 'produce' our students, subjectification is not an outcome: rather it is an event. What is more, it is an event which education can very easily prevent if there is no opportunity to 'interrupt' the educational process; no opportunity for students to come into the world; if there is no opportunity to be addressed by the other; hear the call of the other; to 'open our ears and perhaps even our hearts' (Biesta 2013:146).

If education only becomes about qualification and socialisation then the important issue of subjectification, which the Enlightenment brought into the fold of education, is actually in danger of being left out. Thus, in this sense, education runs the risk of being un-educational. Events of subjectification cannot be programmed into learning: rather they interrupt education understood in a Kantian Enlightenment framing - but only if, at an individual and institutional level, such moments of interruption are allowed and if teachers and students are sensitive to them.

The above exploration of Biesta's 'pedagogy of interruption' has something important to say about, and contribute to, the possibility of approaches to education which allow the question of what it is to be a human subject to remain open, which allow for emergence of new and unforeseen ways of being and doing in the world essential for sustainability. Although moments of interruption cannot be 'hard-wired' into teaching it does seem possible that such moments could be encouraged, or at least not shut down.

In the following sections I explore the ideas of Hannah Arendt, in particular her ideas of 'natality', and 'spaces of appearance'; Mouffe's ideas of 'agonistic pluralism' and Rancière's conception of *dissensus* which includes 'a presumption of equality as a starting point', 'stultification' and 're-arrangement of the sensible'. I argue that these ideas, despite the tensions and difficulties between their different arguments, provide ways to open the possibility that the subjectification envisioned in Biesta's 'pedagogy of interruption' can be encouraged to take place. I also explore how these ideas can contribute to education for sustainable futures.

5.4 Hannah Arendt – the *vita activa*, and emergence of the human subject in ‘spaces of appearance’

In this section I argue that the work of Hannah Arendt introduces ways of thinking about subjectivity which can assist those in education who wish to keep what it is to be a human subject open, radically undecided. Arendt was a twentieth century political thinker and using her ideas in education needs to be done with care. Indeed, she warned against seeing education as a political field (Arendt 2006a, [1961]), an issue discussed later in this section. Through my exploration of Biesta’s ‘pedagogy of interruption’ I have already referred to her conceptions of natality, action and plurality. In this section I further explore these ideas, set them into the wider context of her work, consider criticisms and consider what her ideas could mean for an education which is ‘ruptural and inaugurative’ and which seeks to allow emergence of new ways of doing and being in the world.

5.4.1 The *vita activa* and action in ‘spaces of appearance’

Arendt developed a conception which she called the *vita activa*. Voice (2014) argues that the *vita activa* has two distinctive features which set it apart from other ways of theorising. Firstly, it concentrates on, and validates, the active life and has a worldly focus. This stands in contrast to the *vita contemplativa* which has usually been privileged over the *vita activa* in Greek and Christian thinking. Secondly, it opposes the modernist viewpoint which, whilst also rejecting a prioritisation of the *vita contemplativa*, either privileges labour and work (as seen for example in the writings of Marx) over the political sphere, or, as in the philosophy of Kant, which:

whilst articulating a philosophy of practical life, retains its foundation in universal reason and takes as its source of authority the noumenal realm which stands outside the practical (Voice 2014: 44).

Arendt introduces a hierarchy of categories in her conception of the *vita activa* namely labour, work action. Labour and work take place in what she calls the private sphere or realm and action takes place in the public sphere/realm. For Arendt, action in the public sphere is regarded as the highest form of human activity.

Labour is the activity needed to maintain us physically. It is repetitive and leaves no permanent artefact or symbols in the world. It is cyclical in nature, unremitting and concerned with the production and consumption needed for biological functioning and survival. Arendt is not denigrating the necessity of labour although some critics do accuse her of this, for example some feminists question her attitude to the care needed for biological functioning (for example Dietz 1994). Indeed, Arendt argues for the necessity of labour as a permanent feature of our human life and criticises Marx for the utopian idea that the need for labour can somehow be banished (Voice 2015). Arendt acknowledges:

The blessings or the joy of labour is the human way to experience the sheer bliss of being alive which we share with all living creatures, and is even the only way men too can remain and swing contentedly in nature's prescribed cycle (1974 [1958]:106).

What does concern Arendt, however, is the rise of an attitude in which everything is treated as *though* it is part of an endless cycle of labour and the consumption needed for bodily functioning and survival. She states:

In our need for more and more rapid replacement of the worldly things around us, we can no longer afford to use them, to respect and preserve their inherent durability; we must consume, devour, as it were, our houses and furniture and cars as though they were the 'good things' of nature which spoil uselessly if they are not drawn swiftly into the never-ending cycle of man's metabolism with nature (1974[1958]:125-6).

Arendt argues that this does not lead to fulfilment; instead it leads to a fear of loss, or further unfulfilled desire (Arendt 1996 [1929]). Moreover, for Arendt, a focus on animal *laborans* and cycles of consumption hijacks the political realm as a place to pursue one's own private physical needs (what Arendt terms the 'rise of the social') 'rather than being a venue for real political action' (Voice 2014:42). This results in a situation where individuals see themselves as *consumers* of politics rather than active participants in the political process, participants who can enact change and facilitate, for example and importantly for this thesis, the emergence of new and more sustainable ways of being and living in the world. This has ethical implications. As Arendt comments in *The Origins of Totalitarianism: Part Three* (1968 [1951]:36):

Nothing proved easier to destroy than the privacy and private morality of people who thought of nothing but safeguarding their private lives.

Her second category is work. Work is the product of *homo fabricans*. It differs from labour as it leaves something (relatively) permanent in the world. It is the making of such objects, which stand outside humans' subjectivity that creates a world which stands between humans and can be recognised by them. Such recognition generates a stabilising effect on the common world. Modern life, with its rise in the disposable aspects of consumerism, threatens this objective world since 'objects lose their use character and become more and more objects of consumption' (Arendt 1974 [1958:125]).

Arendt's third category, and the one to which she allocates the highest esteem, is action. Action takes place in what Arendt calls the public space. For Arendt, such action *is* freedom, and it is the denial of a public space in which to act that is the hallmark of totalitarian regimes. Action, for Arendt, takes the form of speech with others. In such speech '*who*' one is, not '*what*' one is, emerges. This distinction between *who* a person is and *what* a person is is crucial in Arendt's work. *What* one is is about a person as a representative or example of a species, a social group or even an educational age group – a child in year six, an adult learner: more or less physically, biologically the same as others in the group. *Who* one is, in contrast, is about an individual in their uniqueness. Arendt reminds us that 'Men not man live on the earth' (1974 [1958]:176) and each individual person is 'unique, un-exchangeable and unrepeatable' (1958:97). It is through acting and speaking in the presence of others, who are themselves unique beings, that one discloses one's uniqueness. However, this is not a disclosure in the sense of disclosing an already formed 'inner essence'. As I discuss in the next section on 'natality', *who* one is emerges in and through speech and action with others and it is in the space between 'I and we' that 'who I am' emerges. Arendt calls spaces where such disclosure/emergence is possible 'spaces of appearance'. However, such spaces *are* 'the *polis*'. As Arendt (1974[1958]:198-9), drawing on the Ancient Greek tradition, explains, the *polis*:

properly speaking, is not the city state in its physical appearance; it is the organisation of the people as it arises out of acting and speaking together, and its true space lies between people living together for this purpose, no matter where they happen be.' Wherever you go you will be a *polis*'; these famous words became not merely a watchword of Greek colonisation, they expressed the conviction that action and speech create

a space between the participants which can find its proper location almost any time and anywhere. It is the space of appearance in the widest sense of the word, namely the space where I appear to others as others appear to me, where men exist not merely like other living or inanimate things but make their appearance explicitly²⁹.

She adds that:

whenever people gather [*a space of appearance*] is potentially there, but only potentially, not necessarily, and not forever (199).

In Biesta's (2006, 2010, 2013) 'pedagogy of interruption' 'spaces of appearance' are moments which 'interrupt' the dominant educational paradigm where what it is to be a human subject is already decided, are intimately connected. One does not precede the other.

Appearance, for Arendt, also has another key feature – what she calls 'natality'. 'Natality' is integral to appearance rather than something that happens within the space. It is these concepts – 'spaces of appearance' and 'natality' - held together as one, which makes Arendt's philosophy ruptural and inaugurative and also enables one to describe it as complexity-compatible. In the next section I explore Arendt's idea of natality and what this can mean for an education which allows the emergence of the new.

5.4.2 'Natality'

Arendt's concept of 'natality' emphasises that we are born and continue to have our beginnings *in this world*. The emphasis is on birth and life in this world rather than a focus on death, as in Heidegger's 'being unto death'³⁰, or a focus

²⁹ I would highlight here that this quotation does introduce the issue that Arendt identifies humans as separate from, and by her use of the word 'merely' superior to, the wider natural world. Arendt, who died in 1975 was writing very much within a modernist framing. In chapter seven I reflect on the thread of Arendt's ideas on spaces of appearance without them being a 'chain fettering us' (Arendt 2006b [1961]:94) and preventing new understandings, a move which I would like to think Arendt invites. I draw on the ideas which posthumanist and posthuman thinking, which I introduced in chapter two, open up and explore the possibility of a different starting point in the relationship between humans and the wider natural world and the possibility of spaces of appearance between them.

³⁰ Katago (2014) suggests that whilst Heidegger does also explore 'being in the world' and notions of care (*sorge*) these are more limited since they are in relation to the individual self. Arendt's focus is on plurality in the world and thus her analysis is far richer.

on the afterlife. 'Nativity' involves not the isolated self as experienced in death, rather it involves a creative act 'between plural selves – 'a we rather than an I' (Hayden 2014:15). Arendt's thinking on 'nativity' began in her thesis on *Love and St Augustine* and finds a fuller expression in *The Human Condition*. In *Love and St Augustine* Arendt (1996 [1929]:46) began to explore Augustine's notion of *initium*:

Initium ergo ut esset, creatus est homo, ante quem nullus fuit (Translated by Arendt as 'That there be a beginning, man was created before whom there was nobody').

In her interpretation of *initium* Arendt sees that the possibility for immortality is to be found in acting, being an *initium* in this life, this world, rather than in the afterlife as in the thinking of St Augustine.

In *The Human Condition* (1974 [1958]:177) Arendt further develops her conception of *initium* and nativity. For her, beginning:

is not the same as the beginning of the world, it is not the beginning of something but of somebody, who is a beginner himself. With the creation of man, the principle of beginning came into the world itself.

Arendt's notion of 'nativity' has a sense of both birth and 'second birth'. For example, she says:

With word and deed we insert ourselves into the human world, and this insertion is like a second birth, in which we confirm and take upon ourselves the naked fact of our original physical appearance (1974 [1958]:176-77).

Arendt's notion of 'nativity' resonates with Bergson's *élan vital*:

the explosive force - due to an unstable balance of tendencies - which life bears within itself (Bergson 1912:103).

which I introduced and explored in chapter four. For Arendt, action and novelty are intrinsically linked to nativity, to being an *initium*, since:

To act, in its most general sense, means to take an initiative, to begin...Because they are *initium*, newcomers and beginners by virtue of birth, men are prompted into action...It is the nature of beginning that something new is started which cannot be expected from whatever may have happened before. This startling unexpectedness is inherent in all beginnings and all originals (1974 [1958]:177).

For Arendt speech has a key role in action for it is *through* speech with others that 'who' we are, rather than 'what' we are emerges. What is more, it is through speech and action that *initiums* can bring novelty into the world. This novelty opens the possibility of disruption of existing Enlightenment frameworks in education and inaugurating new beginnings. This is an important issue in education which explores sustainability which can, if approached in certain ways close down the possibilities of students bringing in new ways of thinking, new concepts of what it is to be a human subject who acts and interacts with others in the world. As highlighted in chapter two, Sterling identifies that education about sustainability often adopts approaches which he considers engage with first order or second order learning. First order learning is engaged with knowledge and skills *about* sustainability issues which can be easily assimilated into existing curricula. Second order learning is learning *for* sustainable development. This involves more reflective activities, encouraging the development of critical thinking skills, problem-solving and trans-disciplinary thinking which many believe will be needed to solve sustainability issues in the future. However, the problem with both approaches is, as Sterling (2009 [2001]:61) points out:

There is often an assumption that we know clearly what values, knowledge and skills 'are needed'.

I would add to this that there is often an assumption that the 'we' in question is the teacher or another adult. However, as Arendt (2006a [1961]:193) points out:

And education, too, is where we decide whether we love our children (*and young people* - my addition) enough not to expel them from our world and leave them to their own devices, nor to strike from their hands their chances of undertaking something new, something unforeseen by us.

Beginnings, however, raise important questions about ethics. As indicated in the earlier discussion of Biesta's 'pedagogy of interruption', since our beginnings can be taken up by others in ways which are unexpected by us, beginnings are 'boundless' (cannot be 'bounded' by us as others are involved and may take things in directions we did not anticipate). Also, once brought into the world beginnings cannot be taken back and are thus 'irreversible'. This is particularly important for education exploring sustainability since it has an

overtly normative focus. If education allows new ways of being and doing to emerge this raises the question of what happens if some do not feel that these ways are ethical or compatible with differing conceptions of what is understood as 'good' in the field of sustainability. Arendt proposes forgiveness and mutual promising as an ethical response to boundlessness and irreversibility. There is a wider discussion of these ideas in chapter six which draws on Arendt to develop a conception of ethics within a logic of emergence.

5.4.3 Summary of section

In this section I have explored Arendt's concepts of 'spaces of appearance', natality and the possibility of the new and the unexpected. Arendt's understanding of politics is formed around action rather than identity and has a 'world building' focus. A world built on these concepts signals a way of acting in the world which allows new ways for taking responsibility as a human subject to emerge – an emergence which is essential for sustainability and for education. This then raises the question of whether such 'spaces of appearance' can open up in education; spaces where, through acting and speaking with others '*who*' one is as an *initium*, a beginner can emerge and bring new ways of knowing, being and acting into the world. Such a possibility is important in Facer's (2016:58) 'pedagogy of the present' which I introduced in chapter two, with its emphasis on:

An orientation to the future that admits of the possibility of future transformation that exceeds and resists colonisation by the constraints of the present.

The answer to whether 'spaces of appearance' are possible in education is complex and controversial but in the next section I argue how 'spaces of appearance' could be a possibility in education, although never something that could be guaranteed, since spaces of appearance 'flicker': fleeting moments which need to be recognised.

In making the argument that 'spaces of appearance' are possible in education I draw on ideas from Mouffe (2000,2005,2007, 2014) and Rancière (1999,2001,2010,2011). Again there are controversies to be explored, especially since both authors have openly critiqued Arendt's work. However, I believe such an endeavour is worthwhile since reading these authors together

brings ways to think about the possibility of an education which is 'ruptural and inaugurative'. I also explore Masschelein and Simon's (2013) ideas on how to encourage education understood as *skholé* – a break from the issues of the day, 'free time' to encourage the possibility of the new.

5.5 'Spaces of appearance' in education: Issues and possibilities.

5.5.1 Are 'spaces of appearance' possible in education?

In Arendt's conception, spaces of appearance have the potential to occur 'where I appear to others as others appear to me' (1974[1958]:198). At first sight the possibility of such spaces occurring in education seems straightforward. However, for Arendt such spaces appear when I act, speak, and begin something new in the public domain. The issue is whether education is or should be considered such a public space. This is an issue which has caused debate in academic literature and is explored by Arendt in her essays *Crisis in Education* (2006a [1961]) and *Reflections on Little Rock* (1959). Arendt has been represented in the literature (for example see Biesta 1996, Timmermann Korsgaard (2015)) as positioning education in the private domain. For example, Biesta (1996:97) states:

While Arendt locates the interaction between adults in the, by definition, undetermined and undeterminable public realm of politics, she situates education in the private realm and makes a firm plea for separation between these two domains.

Biesta, in his more recent work, recognises that Arendt locates education as a *place between* the public and the private. If we look at Arendt's own words in *Crisis in Education* (2006a [1961]:185) we can see that she expresses this point quite clearly, stating:

Normally the child is first introduced to the world in school. Now the school is by no means the world and must not pretend to be; it is rather the institution that we interpose between the private domain of the home and the world in order to make the transition to the world possible at all.

Biesta (2013), using a technique he calls 'Arendt against Arendt' (see also Benhabib 1994, Gordon 2001), argues that Arendt makes the mistake of seeing education in physiological terms which depend on a developmental

understanding of the child who at some point becomes an adult³¹. He points out that whilst it is possible to ask when such a point occurs, for him the more important question to ask is 'what are the conditions for politics, actions and freedom'. Continuing with this line of argument, Biesta (2013:112) points out that:

By keeping the realm of education apart from the realm of politics Arendt seems to assume that the dynamic realm of politics – the dynamics of beginning and response, of action in plurality - either do not happen in the realm of education or can be held at bay by the educator. Only if we are to assume that children are simply not capable of word and deed but only produce noise³² can it be guaranteed that action and freedom will never appear amongst children.

In contrast, Timmermann Korsgaard (2015) argues against Biesta's position. He proposes that Arendt's claim for separation between education and the political realm is a vital and valid one. He claims that in developing an argument against Arendt based on developmental or temporal interpretations, Biesta misses or underplays what Timmermann Korsgaard considers to be a key point in Arendt's argument: the importance of protection. Citing Arendt's (2006a [1961]:185) comment that education is:

the place for the free development of characteristic qualities and talents ... the uniqueness that distinguishes every human being from every other, the quality by virtue of which he is not only a stranger in the world but something that has never been here before.

Timmermann Korsgaard (2015) argues that:

education is a matter of preserving and protecting the school from a politicisation, which would change the very nature of the school. The school is a place for the safe study of the world, conducted without having to face the political and actual consequences of different ways of thinking and acting in the world.

To support his argument Timmermann Korsgaard draws on Arendt's *Crisis in Education* (2006a [1961]) and *Reflections on Little Rock* (1959) – the latter being a text which he notes Biesta does not cite. In *Reflections on Little Rock* Arendt discusses the highly political events which occurred in the American city

³¹ Biesta (213:111-12) states he does have some sympathy for Arendt's point that children need space to develop their own new beginnings.

³² 'Noise', a concept Biesta is drawing in from Rancière, is explored further in the next section

of Little Rock, Arkansas in 1957. Following the federal decision three years earlier that separated education establishments based on race were inherently unequal and therefore unlawful NAACP³³ activists in Little Rock recruited nine children prepared to enrol in the all-white high school. On the first day of term, an angry mob and the local guard, under orders from Governor Faubus, prevented the entry of these youngsters into the school. Margolick (2011) describes how for all the students this was a traumatic experience but for one student, Elizabeth Eckford, the experience was particularly distressing.

Foreseeing trouble, the local organisers had telephoned the children's homes at the last minute. They asked that the children should be accompanied by their parents and that all would meet up the next day and attempt the entry as a group. Elizabeth and her parents, since they did not have a telephone at home, were not aware of this. She unsuccessfully attempted the entry alone and finally was helped to walk away by a friend of her father. Arendt (1959: 50) comments:

I think no one will find it easy to forget the photograph reproduced in newspapers and magazines throughout the country showing a Negro girl, accompanied by a white friend of her father, walking away from school, persecuted and followed into bodily proximity by a jeering and grimacing mob of youngsters. The girl, obviously, was asked to be a hero - that is, something neither her absent father nor the equally absent representatives of the NAACP felt called upon to be.

Arendt (1959:50) goes on to point out that:

It will be hard for the white youngsters, or at least those among them who outgrow their present brutality, to live down this photograph which exposes so mercilessly their juvenile delinquency.

Reflections on Little Rock was very controversial and its publication was delayed for over a year. In it Arendt emphasises that children should not be politicised and used to fight the battles which adults have confessed themselves unable to resolve. She argues that the law which, at that time, prevented marriage between black and white citizens was an issue of human freedom and the human right to a private life. She felt that this is where political action should be focused initially, rather than on forcing integration into schooling. hooks (1994:4) writes about her own experience of integration as a demanding and

³³ The National Association for the Advancement of Coloured People

potentially damaging one. She describes her shock at experiencing school 'no longer as a place of ecstasy' but instead a place where we were:

Always having to counter white racist assumptions that we were genetically inferior, never as capable as white peers, even unable to learn.

She comments that:

Those periods in our adolescent lives of racial desegregation had been full of hostility, rage, conflict and loss. We black kids had been angry that we had to leave our beloved all-black high school, Crispus Attucks, and be bussed halfway cross town to integrate white schools. We had to make the journey and thus bear the responsibility of making desegregation a reality. We had to give up the familiar and enter a world which seemed cold and strange, not our world, not our school. We were certainly on the margin, no longer at the centre, and it hurt. It was such an unhappy time (24).

Timmermann Korsgaard (2015) argues that seeing education as a place of protection is close to the original sense of the Ancient Greek word *skholé* which is the etymological root of the word 'school'. Literally translated from Ancient Greek, *skholé* means free time, a break, a respite, leisure. However, for the Ancient Greeks, this is not leisure in the sense of a luxury or break from a primary activity. Rather it denotes a time which has a higher value than what it is interrupting, a time to debate, reflect. Timmermann Korsgaard argues that this understanding of *skholé* provides a basis for arguing that there should be a clear division between the political and the realm of education. He sees current day politicisation as the infiltration into education of an understanding of education as a place of preparation for work, the generation of a particular type of citizen.

I would argue, however, that the concept of *skholé* introduces a way for *rapprochement* between the arguments of Biesta and Timmermann Korsgaard and thereby introduces a way in which there is the possibility of a particular understanding of spaces of appearance within education. This *rapprochement* requires consideration of the way the word *political* is used. As Masschelein and Simons (2013) argue, if we understand 'the political' in terms of *politicisation* of education, making education a setting where, through control of curricula and educators, current political issues can be played or even fought out, and where

existing ideas of the future can be aimed towards, then this would be against the concept of *skholé* as a break, a space apart. This could indeed be a barrier to the possibility of emergence of the new in education. However, if the political is understood existentially as action and freedom, a sense of engaging in:

the space where I appear to others as others appear to me, where men exist not merely like other living or inanimate things but make their appearance explicitly (Arendt 1974 [1958]:198-199)

then education *can* be political in this sense.

To be consistent with *skholé* as a break, a place apart, education needs to be a place to break free from the political already existing in the world, including in the children's situated life outside school³⁴. Such spaces need an element of protection to ensure that they do not become political in the sense of 'politicised'.

I therefore argue that existing politically through acting in 'spaces of appearance' *is* possible in education, in the *skholé*, if such spaces are understood also to have this sense of protection against the infiltration of politicisation. Biesta's understanding does, perhaps, imply this, but his emphasis on developmental issues in Arendt's argument underplays this aspect. Children can speak rather than produce 'noise' (to use Rancière's term which is explored in more detail in the next section) in the *skholé* but they need opportunities to speak with their own voice, rather than act as mouthpieces of the adult world. I argue that Arendt, in speaking of education as a 'place between' the public and the private' rather than in one realm or the other makes possible nuanced understandings, such as 'spaces of appearance in the *skholé*' i.e. spaces 'protected from politicisation' but where 'the political' can happen.

Having argued that it is valid to speak of 'spaces of appearance' in education this then raises the question of what could encourage the possibility of such spaces³⁵. This issue is explored in the next sections which continue to discuss Arendt's ideas and also draw on Mouffe and Rancière. The discussion also

³⁴This recognises the point made by Biesta and Lawy (2006).

³⁵ I have argued earlier in this chapter that spaces of appearances are spaces where, through acting and speaking in the presence of others who are themselves unique beings, *who* one is, as an *initium*, a beginner, can emerge, bringing new ways of knowing, being and acting into the world.

include exploration of why it is helpful, despite the challenges it presents, to read these different thinkers together and what their ideas can contribute to an education, including education exploring sustainability, which is both ruptural and inaugurative. I also examine the ideas of Masschelein and Simons (2013) on how to encourage education as *skholé*.

5.5.2 Conditions of possibility for ‘spaces of appearance’ in education

Whenever people gather [a space of appearance] is potentially there, but only potentially, not necessarily, and not forever (Arendt 1974 [1958]:199).

Having established a desire to interrupt dominant frameworks where what it is to be a human subject is already decided and create instead a ‘space of appearance’ where what it is to be a human subject is left radically open, one is hungry for ways to bring such a possibility into education. Whilst accepting that spaces of appearance cannot be forced, produced as a predetermined end, it seems important to explore ways that their possibility can be encouraged, recognised and allowed in to interrupt. It is important to be mindful here of the issue raised by Biesta (2004) that education takes place in the gap between the teacher and the student. What takes place in the gap cannot be produced in some predetermined way. In the gap we see ‘unboundedness’ at play. The teacher can bring ideas into the gap but how these will be taken up by the student is both beyond our knowing and our control. This is not, however, something to bemoan or fear, rather it is something to celebrate. It does contain a risk, but as Biesta (2013) suggests, this can be understood as the *Beautiful risk of education*.

I argue that Arendt’s conception of ‘visiting’ can help create conditions where spaces of appearance are a possibility. I then argue that the possibility can be enhanced by drawing in ideas from Mouffe on agonistic pluralism, Rancière on *dissensus* and Masschelein and Simons’ understanding of *skholé*.

5.5.3 'Visiting' in 'spaces of appearance'

Biesta (2013:114) points out that:

acting in 'spaces of appearance requires us to exist together in plurality. It means to act 'in concert' (Arendt 1974 [1958]:57) without eradicating plurality.

However, this then raises the question of how 'acting in concert' is to be understood or done. Biesta (2013) draws our attention to the question Arendt (1973 [1958]:57) herself poses when she asks how common action could be possible, given:

The simultaneous presence of innumerable perspectives and aspects in which the common world presents itself and for which no common measurement or denominator can ever be devised.

Arendt proposes 'visiting' to understand and enable a person to connect with plurality and with these differing viewpoints. 'Visiting' is existential in nature and recognises that 'we are all the same, that is, human, in such a way that nobody is ever the same as anyone else who lived, lives, or will live' (Arendt 1974 [1958]:8). 'Visiting' requires a mental capacity appropriate for an active relation to that which is distant. This mental capacity is, for Arendt, the capacity of understanding. Understanding, she argues is not the same as having correct information or scientific knowledge. Rather, understanding is:

a complicated process which never produces unequivocal results. It is an unending activity by which, in constant change and variation we come to terms with and reconcile ourselves to reality (Arendt1994 [1956]): 307-8).

It is this active process of understanding which makes it 'bearable for us to live with other people, strangers forever in the same world, and makes it possible for them to live with us' (Arendt1994 [1956]:307-8). Hansen (2004:3) points out that 'bearing with strangers' 'suggests more than 'mutual indifference' which is conveyed by, for example, the term 'tolerance'.

For Arendt (1994 [1956]:323), central to the process of understanding (and thus central to 'visiting') is the faculty of imagination since:

Imagination alone enables us to see things in their proper perspective, to be strong enough to put that which is too close at a certain distance so

we can see and understand without bias and prejudice, to be generous enough to bridge abysses of remoteness until we can see and understand everything that is too far away from us as though it were our own affair.

Imagination is thus a two-fold process of opening a space and bridging that space. It is imagination which allows for the possibility of 'visiting' with others, both physically and through 'consulting' with others in one's mind. Imagination helps to build an enlarged mentality, enabling one to make judgements³⁶ and form a general understanding or standpoint. However, for Arendt (1982:43-44) this is not a generality built on:

the generality of [a] concept - for example, the concept 'house,' under which one can then subsume various kinds of individual buildings. It is, on the contrary, closely connected with the particulars, with the particular conditions of the standpoints one has to go through in order to arrive at one's own 'general standpoint'.

In his exploration of 'visiting' Biesta (2010, 2013) explores how 'visiting' differs from *tourism* (reflecting on another's situation without 'leaving the comforts of home', of one's own situation), or *empathy* (imagining that you are in the position of another, seeing through their eyes: a form of assimilation of the other into the self). For Biesta (2013:116), empathy implies 'that we can, easily and comfortably, put ourselves in the position of others'. In contrast, visiting is more challenging.

The exploration of 'visiting' highlights an important difference between ideas proposed by Biesta and Dewey. Dewey builds on education as action, but it is an action which leads the student and the teacher to build, through social interaction, a common understanding, a certain agreement of worldviews. However, as Biesta (2004:21) points out, a line of thought which builds on an Arendtian conception of visiting recognises that:

social interaction — in so far as it is social and not a mechanism — is not based upon agreement, identity, and consensus, but exists by virtue of difference, singularity and *dissensus*³⁷.

³⁶ Young-Bruehl (2006:166) points out that for Arendt 'just as acting together gives the enlargement of power which none can have alone, *urteilskraft* (which literally means judgement-power not just judgement-craft) is built through experience of the world and of other people'.

³⁷ Here Biesta is using Rancière's term *dissensus* which I explore in more detail later in the chapter.

The challenge is to find ways to live with and through these differences and insertions of *dissensus*.

'Visiting', since it concerns us as existential beings, is open to children and those adults defined by the Enlightenment as non-rational (e.g. women) as well as the so-called rational. All these have an existential presence in the world. Visiting, and Arendt's conception of the process of 'bearing with strangers' built on understanding, imagination and judgement-making can fruitfully be explored and practiced in education settings, as I discuss in more detail later in this chapter. While visiting can never guarantee 'spaces of appearance' it can, I argue, create conditions where they are a possibility.

5.5.4 Mouffe's agonistic pluralism

Mouffe (2007: Online), however, is critical of Arendt's approach. She argues that Arendt's conception of thinking politically:

consists in developing the ability to see things from a multiplicity of perspectives...as a procedure to obtain intersubjective agreement in the public sphere through an exchange of voices, opinions and persuasion.

Mouffe describes Arendt's approach as agonism without antagonism, For Mouffe (Online) it is necessary to acknowledge that agonism without antagonism is not possible, for example she explains:

One of the principal theses that I have defended in my work is that properly political questions always involve decisions which require a choice between alternatives that are undecidable from a strictly rational point of view.

The rational decision³⁸ made, the consensus reached occurs in a 'moment of undecidability' (and here she is drawing on Derrida - see Mouffe 2005). In such 'moments of undecidability' the decision could go in a number of directions, each of which could be reasonably argued for from the perspective of the holder of that view. It is hegemonic processes (power relations) which make one way seem the rational, or consensual one rather than just one possible way among

³⁸ Mouffe also asserts that Habermas' approach to deliberative decision-making is reliant on an appeal to an independent 'rational truth'. She then draws on Wittgenstein to show how 'rational truths' are in fact situated in different understandings of the world and that a single 'rational truth' is not possible (see Mouffe 2005).

many. For Mouffe it is important to reveal these hegemonic processes, to acknowledge the possible alternative ways forward which have been discarded, and recognise that 'traces' of the discarded ideas remain in the way forward which has been decided. It is the recognition of this situation which allows difference to be what Mouffe (2000, 2005, 2014) terms 'agonistic pluralism', a pluralism which does not erase antagonism but instead gives it a place. Agonistic pluralism allows for the recognition that there will always be those whose views are different from one's own, and whose preferred course of action was equally valid but not chosen, and that such a situation is an inevitable part of the human condition. The recognition that those holding different views from one's own can be adversaries to be defeated but respected, rather than enemies to be destroyed, silenced or converted, or treated as though they did not exist in the first place. This allows these adversaries into the 'space of appearance.' The process of recognition can also highlight the hegemony at play which at first sight made the decision made seem the only possible rational way forward rather than the choice of one of a number of possible rational ways forward.

These insights from Mouffe are important when exploring the possibility of existing together in plurality and encouraging 'spaces of appearance'. Consensus cannot always be reached and there are reasons that some paths are chosen, that some ideas are seen as the 'norm, or 'good' or rational' and others are not, even in a consensual approach. Such differences are to be explored as part of the human condition rather than erased, thus recognising that 'bearing with strangers' is an essential step in living together in the world. I argue that allowing this recognition into the debate enhances the possibility that 'spaces of appearance' can occur, interrupting existing dominant frameworks both in education and other spheres.

Dikeç (2013) argues that whilst Mouffe's thinking can be 'considered 'ruptural' of a reliance on consensus and/or rationality, the question remains as to what Mouffe proposes can be done from the starting point of this disruption. This is where the ideas of Jaques Rancière can usefully be brought into the discussion. Rancière, like Arendt, proposes ideas about politics and subjectification which are both disruptive and inaugurative.

5.5.5 Rancière and *dissensus*

In some ways Rancière and Arendt are very different thinkers, and these differences will be explored in this chapter. However, as Dikeç (2012:83) points out:

Their politics emphasises the construction of space – for acting with others, for Arendt and for setting a stage for the manifestation of *dissensus* for Rancière.

For Rancière (2010a:69) *dissensus* is:

Not a conflict of interests, opinion, or value; it is a division inserted in ‘common sense’; a dispute over what is given and about the frame within which we see something as given.

In Rancière’s thought (2010a:69) a political subject is ‘a capacity for staging scenes of *dissensus*’ and for opening up the ‘space of a test of verification’ in the existing structuring of the sensible world. For him:

The generic name for subjects that stage such tests of verification is the *demos* or people. Not only do they (the *demos*, or people) bring the inscription of rights to bear against situations in which those rights are denied but they construct the world in which the rights are valid, together with the world in which they are not. They constitute a relation of inclusion and a relation of exclusion (69).

Thus, for Rancière, *dissensus* is not only about disruption, it is also about inserting something new into the world, a surplus, a ‘more than existed before’, a rearrangement of the sensible, in which those who have ‘no qualification for exercising power’ (70), do exercise it nonetheless. *Dissensus* allows for the possibility of ‘enlarging the space of the possible’, to cite Davis, Phelps and Wells (2004:4), rather than replicating the existing possible, the existing arrangement of the sensible world. Acts of *dissensus* question, disturb, interrupt existing categorisations. In *Who is the subject of the rights of man?* Rancière provides the following example of *dissensus*:

During the French Revolution, a revolutionary woman, Olympe de Gouges, made the point very clearly, famously stating that if women were entitled to go to the scaffold, then they were also entitled to go to the assembly. Her point was that those who were apparently equal (*with regard to the guillotine* - my addition) were, in fact, not equal citizens.

They could neither vote nor stand for election. The prescription was, as usual, justified on the grounds that women did not fit the purity of political life, because they belonged to private domestic life. The common good of the community had to be kept apart from the feelings, interests of private life. Olympe de Gouges showed it was not possible to draw the border separating bare life and political life so clearly. At least one point existed where 'bare life' proved to be political, when women were sentenced to death (69).

Through this process, this claim, there was a twofold insertion of a *dissensus* into the existing political framework – the point of insertion and also the fact that they could publicly make this insertion showed that women could publicly, politically enact a claim. It is this manifestation, this *dissensus*, and 'rearrangement of the sensible' that Rancière calls the political. The political understood in this way interrupts what Rancière calls the 'police' or existing ordering of the world. It is important to note that Rancière accepts that there are better and worse police orders, it is not a simple categorisation of good and bad.

Rancière (2011:3) is critical of Arendtian categorisation of what is political, stating:

There is no pure politics. I wrote the *Ten Theses on Politics* primarily as a critique of the Arendtian idea of a specific political sphere and a political way of life.

He argues that this categorisation divides those destined to take part in a political life located in a political sphere, those destined to participate in the Aristotelian conception of a good life, from those destined to merely exist/labour or work and thus only experience 'a bare life'. Rancière argues that it is through the process of *dissensus* that those who have no place, no voice to be heard in the public domain can claim a voice, 'affirm[ing] equality as an axiom, as an assumption, and not as a goal' (Rancière *et al* 2000:3). The political is this polemical, disputatious process. Rancière's use of the phrase 'pure politics' in his criticism of Arendt is also important. He criticises Arendt for excluding issues relating to social welfare needed for bodily functioning and issues around work (what Arendt calls 'the social'). For Rancière (2011:4):

Political action consists in showing as political what was viewed as 'social, 'economic' or domestic. It consists in blurring the boundaries. It is

what happens whenever 'domestic' agent-workers or women, for instance – reconfigure their quarrel as a quarrel concerning the common, that is, concerning what place belongs or does not to it and who is able or unable to make enunciations and demonstrations about the common.

In *Proletarian Nights* (2012) Rancière provides an example of his thinking in the area of who can speak and what constitutes political questions. This work explores the life of workers who, in the 'police order' had no place to be heard as intellectuals. Yet these workers organised themselves at night to study and be productive in the arts rather than sleep. They claimed a time they had no right to, to act in ways not configured in the 'existing sensible'. They inserted their intellectual work into the existing world, rearranging the sensible of who could speak, who could have a voice as an intellectual, and what counts as a political question. They also brought into question and changed what counted as intellectualism since their version of intellectualism was different from that which previously existed. This process of *dissensus* was, for Rancière what democracy is. As Biesta (2013: 35) explains:

Democracy - or to be more precise, the appearance of democracy - is therefore not simply the situation in which a group that has previously been excluded from the realm of politics steps forward to claim its place under the sun. It is at the very same time the creation of a group as a group with a particular identity which did not exist before.

Rancière's position does make it seem difficult to propose drawing on Arendt and Rancière alongside each other. However, this point is worthy of further consideration. As Schapp (2011:37) points out, Rancière was writing from the standpoint of French intellectuals who were reacting against the appropriation of Arendt's ideas by proponents in the 1980s of 'new French thought' such as Alain Renaut and Luc Ferry who 'wished to emphasise a state-centric consensus politics'. I would argue that this appropriation is a misuse of Arendt's ideas. As cited earlier in this chapter Arendt (1974[1958]:198) states that the *polis* is not a separate civic category, rather it draws on the conviction that:

The *polis*, properly speaking, is not the city state in its physical appearance; it is the organisation of the people as it arises out of acting and speaking together, and its true space lies between people living together for this purpose, no matter where they happen be.

Honig (1995:146) emphasises the agonistic possibilities in Arendtian thought built on an understanding of the public, *not* as a specific place, such as the Greek *topos*, but:

As a metaphor for a variety of agonistic spaces both topological and conceptual that might occasion action.

In such an understanding Honig (1995:146) argues:

We might be left with a notion of action as an event, an agonistic disruption of the ordinary sequence of things that makes way for novelty and distinction, a site of resistance of the irresistible, a challenge to the normalising rules that seek to constitute, govern and control various behaviours.

In emphasising the inaugurative aspects made possible by natality, rather than emphasising categories and pure politics Honig provides a way to bring together Arendtian action and Rancière's notion of *dissensus*. Both share a commitment to politics as action and to avoiding 'an understanding of politics around given identities' (Dikeç 2012:1). Whilst recognising that there are extensive discussions around the similarities and differences between Arendt and Rancière (for example see Schaap 2011, Beltrán 2009, Honig 1995) the question being explored here is what their ideas, which do share a common ground of understanding, contribute to conditions which make 'spaces of appearance' in education a possibility: spaces where there is freedom, to cite Arendt (2006d [1961]:150), to:

call something into being which did not exist before, which was not given, not even an object of cognition or imagination, and which therefore, strictly speaking, could not be known. Action, to be free, must be free from motive on one side, from its intended goal as a predictable effect on the other.

This understanding of action is what can make education democratic – the creation of a space in education where different ways of being, knowing and doing are left radically open, not decided or known in advance.

As well as a framework for understanding the political as *dissensus* and ideas on 'a rearrangement of the sensible' which can be explored in different contexts including education, Rancière also wrote specifically on education, in particular in *The Ignorant Schoolmaster*.

In *The Ignorant Schoolmaster: Five lessons in Intellectual emancipation* (1991) Rancière examines the activities of Joseph Jacotot. In 1818, Jacotot found himself in exile and teaching at the University of Louvain where a number of students spoke only Flemish. Since Jacotot spoke only French this presented a problem when a number of the Flemish-speaking students wanted to attend his lectures. Jacotot needed to devise a method to teach them French without being able to explain the language to them. He decided upon an experiment using the recently published bi-lingual edition of *Télémaque*. Rancière describes how Jacotot asked the students, through an interpreter, to learn the French text, with the help of the translation. When they had made it through the first half of the book:

he had them repeat what they had learnt over and over, and then told them to read the rest of the book until they could recite it (2).

He then asked the students to write in French what they had read about. The experiment exceeded his expectations – which raised the question:

How could these young people, deprived of explanation, understand and resolve the difficulties of a language entirely new to them? (2).

For Rancière this experience:

brutally highlighted what is blindly taken for granted in any system of teaching: the necessity of explication. And yet why should it be taken for granted? (2).

In the current logic of education comprehension requires understanding and this relies on the teacher to explain, to use Rancière's words 'the words of the master must shatter the silence of the taught material' (4).

If explication was not at the heart of teaching the question is raised as to whether the teacher is redundant or whether there is still a role for him or her. The role identified by Jacotot, and highlighted by Rancière, is to 'challenge, to oblige another intelligence to exercise itself' (2010b:2). In such a framing this challenging is independent of knowledge. However, this does require the teacher and the learner to believe in the capacity of the learner to exercise their intelligence, to believe in their intelligence, to use their intelligence to understand what is being studied and to verify their intelligence. This brings us to the importance in Rancière's thinking of equality as axiomatic - to the

presumption of equality of intelligence as a starting point rather than a destination to be achieved through education.

The explanatory approach, in contrast, emphasises the inequality between teacher and student and explanation offers itself as a means to reduce the inequality. However, as Rancière (2010b:3) points out:

This reduction is rather a confirmation. To explain assumes that the material to be learned has a specific sort of opacity, an opacity that resists the types of interpretations and imitations used by a child, a child who can already translate the signs received from the world and from the speaking beings around him.

The student learns that his intelligence is unequal and that if he does not understand, he can express this and the teacher will explain again. The child thus:

Acquires a new intelligence, that of the master's explications. Later he can be an explicator in turn. He possesses the equipment (1991:8).

The dangers in this are twofold. Firstly, the process of explanation stultifies the student. He cannot understand without the teacher's explanations, his intelligence to understand is unequal. Secondly, this process of stultification is taken forward into adulthood. This can be the first step in a process which leads to a situation where individuals develop an attitude that Spinoza calls *potentia* - the feeling that others can generate power over one and one is powerless to effect change oneself rather than *potentia* – a feeling that one can generate the power to act as a unique being, to introduce the new, to change one's environment/society (Koistinen and Biro 2002). Rancière proposes a different way forward, one he calls 'emancipatory' education.

For Rancière emancipatory education is about using one's intelligence under the *assumption* of the equality of intelligence. Equality of intelligence is not a truth claim. Rather it is about seeing 'what can be done under that assumption (Rancière 1991:46). Under such a supposition Rancière argues that there are two roles for the teacher which Jacotot demonstrated in his method:

He interrogates, he demands speech, that is to say a manifestation of an intelligence that wasn't aware of itself or that has given up (29).

And

He verifies that the work of intelligence is done with attention.

To this end the teacher can ask a threefold question - What do you see? 'What do you think about it? What do you make of it? However, Bingham and Biesta (2010:42-43) point out that this verification is not like the verification in the Socratic Method where the teacher checks that the student has arrived at a predetermined point or known knowledge. This an important distinction, since 'what is important here is that while learning already known to the master may be the path to learning' (Rancière 1991:29), it is in no way a path to emancipation. Emancipation cannot be delivered to students, rather it is 'something which has to be claimed by students over again' under the conditions of the presumption of the equality of intelligence.' (Bingham and Biesta 2010:43). It is the presumption of intelligence and what can be achieved under such conditions which makes Rancière's notion of education distinctive from other forms of education including activity-based or participatory learning. As Rancière comments 'Stultification happens in all kinds of active and modern ways (2010:6)'. The presumption of equality where there is none in the existing order is a *dissensus*, a disruption and a political move. As Corcoran (2010:9) comments, for Rancière:

Political struggle proper is therefore not a matter of rational debate between multiple interests; it is above all, a struggle to have one's voice heard and oneself recognized as a legitimate partner in debate. Conversely, the most elementary gesture of depoliticisation is always to disqualify the political quality of the speech of those who demonstrate their equality.

An emancipatory education, a radically democratic education is one where there is a possibility of the radically new, that is to say new ways of knowing, being and acting which 'cannot be predicted from the ground from which [they] emerged' (Osberg and Biesta 2008: 313) and which 'have not been in the world before' (313). In such an emancipatory education students produce 'voice' to be heard, and not merely 'noise'. They are political actors *now*, not rational autonomous individuals-in-training. An emancipatory education as understood by Rancière allows for the possibility of education as a democratic process, education as democracy rather than an education *about* democracy or education practising *for* a democratic role in the future.

Rancière's ideas are both challenging and helpful when considering the conditions which can encourage 'spaces of appearance' in education. They are challenging because we are very unused to thinking under the *presumption* of equality of intelligence in educational relationships. This is not the same as an equality of knowledge or even an equality of intelligence (whatever 'intelligence' may mean). The teacher may know more than a student or vice versa, but it is the *challenge to use one's intelligence*, and how this impacts on approaches to education, which is the critical question for Rancière. Knowledge is important but an education which only consists of knowing what the master (or mistress) already knows could never answer 'the call for moreness' that Huebner (1999:403) argues teachers hope for.

It could also seem challenging to draw on Rancière's notion of the child as a political actor performing acts of *dissensus* (which disrupt the existing 'ordering of the sensible') if one adopts a reading of Arendt which emphasises categories. I have argued earlier in this chapter that if one adopts a reading which emphasises the generative, radical notion of natality, a focus on what takes place within the category of action, then this objection begins to dissipate. Moreover, as pointed out earlier in this section, it is important to recall that the category of the political is not to be understood as civic politics. Rather it is 'wherever two or more meet together for the purpose of acting and speaking' (Arendt (1974[1958]:198).

Rancière's writing is also very helpful for conditions which can encourage the possibility of 'spaces of appearance' in education. Rancière, through the practical example of Jacotot, provides interesting ways to conceptualise educational action. These examples encourage questioning of the existing way we do and understand things in the world, the existing 'arrangement of the sensible' to use Rancière's phrase. In addition, Rancière provides some very clear possible *practical* ways for teachers and students to conduct educational action. I argue that these approaches can encourage the possibility of 'spaces of appearance' in which what it is to be a human subject is left radically open. Whether Rancière's notion of *dissensus* and Arendt's understanding of the political are 'ontologically different', following Schaap (2011) or whether *dissensus* and natality are much closer than that, *in practice*, reading the two thinkers together is valuable. Understanding students as 'beginners and equals'

to use Dikeç's phrase, and practicing education under this presumption, is a powerful starting point for teachers and students who wish to encourage conditions which can make 'spaces of appearance' in education a possibility.

I would also argue that the concept of 'space' is an important concept to highlight and value in 'spaces of appearance'. Indeed, as I have already discussed in this chapter, the very word 'school' has its root in the Greek work *skholé* - a break, a space away, free time. This was not a lesser space – rather it had the potential to be of higher importance than that from which it was a break. Reflecting on his experiences of surviving the Holocaust, Frankl (2004[1957]) identified 'a space' as crucial to his survival. He realised that, like him, many of his fellow survivors were not the physically fittest. Rather they were those who were able to create a mental space in which they could reflect and choose how they responded to the horrors around them, to develop a sense of *potentia* – rather than *potestas*, to use Spinoza's terminology, even in the most desperate and seemingly powerless of situations. In education today, including education exploring sustainability, there is often an endless busyness. Space is an important element of 'spaces of appearance' and one that should not be overlooked. The value of *skholé*, a space set aside and protected from the pressing issues and activities of the day to reflect, to engage, to think of the new and unexpected, is important in the modern school. Education understood as *skholé* is the subject of Masschelein and Simons (2013) *In Defence of the school: a public issue*. In this they develop a number of ways to encourage an approach to education which allows for the possibility of *skholé*. I therefore explore their ideas in the next part of this section.

5.5.6 Masschelein and Simons and encouraging education as *skholé*

Masschelein (2011) and Masschelein and Simons (2013) explore the idea of school as *skholé* - free time or undestined and unfinished time. They argue that such an understanding of school needs to be defended. Masschelein's (2011:1) title *Experimentum scholae: The world once more... But not (yet) finished* highlights that the free time opened up in the *skholé* is:

A time of attention which is the time of regard for the world, of being present to it (or being in its presence), attending to it, a time of delivery to

the experience of the world, of exposure and effacing social subjectivities and orientations, a time filled with encounters.

Masschelein (2011) and Masschelein and Simons (2013) propose that education which engages with encouraging education as *skholé* involves what they call, *suspension*, *profanation* and *attention*. In this section I will explore what they mean by these terms and discuss how these practices can encourage the opening of 'spaces of appearance' and the possibilities of emergence of the new.

For Masschelein and Simons suspension is a matter of suspending, at least for a short while, the past, family background, even terminal illness: leaving these outside the school understood as *skholé*, albeit educational institutions do not necessarily (even commonly) operate in this way today. It is a temporary suspension of these constraints for the student, the teacher and the subject matter in order that school can be a place of transformation. Suspension opens a 'breach in linear time' (Masschelein and Simons 2013:36). This attention to a 'breach in time' recalls Facer's concept of a 'pedagogy of the present': a pedagogy which opens 'a distinctive temporality of its own' (2016:59) filled with the abundant possibilities of the present.

For Masschelein and Simons *skholé* is a space separated from the world of home, of production and worldly politics – a space between these different domains. This does not imply a breaking down of these aspects. Suspension in their thinking is:

Temporarily rendering something inoperative, or in other words, taking it out of production, releasing it, lifting it from its normal context. It is an act of de-appropriation...Generally speaking we can say that scholastic time is time made free and is not productive time (Masschelein and Simons 2013: 33).

Masschelein and Simons (2013:33) cite the work of Pennac (2010) who emphasises that a teacher 'working the room' can draw students into the 'present tense', the 'here and now'. The layout of the room, the arrangement of desks and other items associated with school/*skholé* can also create suspension. Pennac highlights that suspension can 'snap' students out of illusionary thinking that traps them, and that schools and teachers can liberate students, allowing them to:

Detach from the past (which weighs them down and defines them in terms of their [lack] of ability/talents) and from the future (which is either non-existent or predestined) and therefore to 'decouple' their effect (Masschelein and Simons 2013:34).

Suspension temporarily interrupts past and future. A scholastic space is not concerned with linear time, expectations and duties and cause and effect thinking – a sense that 'if you do this, you will achieve that'. Instead it is a place which opens possibilities in all directions, and also a place of vulnerability which such opening up can bring.

I feel that this poem by C. Day Lewis (2014 [1956]) captures very well the letting-go of a child into the in-between space of the *skholé*.

Walking Away by C. Day Lewis.

It is eighteen years ago, almost to the day –
A sunny day with the leaves just turning,
The touchlines new ruled - since I watched you play
Your first game of football then, like a satellite
Wrenched from its orbit, go drifting away.

Behind a scatter of boys, I can see
You walking away from me towards the school
With the pathos of a half-fledged thing set free
Into a wilderness, the gait of one
Who finds no path where the path should be.

That hesitant figure, eddying away
Like a winged seed loosened from a parent stem
Has something I never quite grasp to convey
About nature's give and take – the small, the scorching
Ordeals which fire one into irresolute clay.

I have had worse partings, but none that so
Gnaws at my mind still. Perhaps it is roughly
Saying what God alone could perfectly show -
How selfhood begins with a walking away,
And love is proved in the letting go.

Masschelein and Simons (2013:38) also discuss the importance of what they call 'a matter of profanation': making something available, as a public good.

'Profanation' is:

a step which proceeds after suspension, a positive movement: the school as present tense and middle ground, a place and time for possibilities and freedom.

Masschelein and Simons use the term 'profane' and 'profanation', in a non-religious sense, as:

something detached from its regular use, no longer sacred or occupied by a specific meaning, and so something in the world that is both accessible to all and subject to re-appropriation of meaning (38).

They argue that the scholastic experience made possible in the *skholé* is the confrontation of things made public, such as subject matter, in ways no longer appropriated by the older generation, but made available for the younger generation for free and novel use. Pennac once again makes a contribution to Masschelein and Simon's thinking here. Pennac (2010) comments how in school there is always something 'on the table', be it a car part, a mathematical proof, a text. In school there is a possibility of paying attention to the item under scrutiny, to the rules of the game imposed upon us by practicing the subject matter itself, be it a text or an action, rather than to fulfil an external social goal. By bringing the subject matter into play in this way as something valuable, something unhanded from its usual/appropriate social use, it 'demands our attention; it invites us to explore it and engage it regardless of how it could be put to use' (Masschelein and Simons 2013:40). Masschelein and Simons anticipate how this point of view could be criticised as 'not real' or not realistic. They counter this by identifying the difference between apprenticeship and education understood as *skholé*. Apprenticeship does need to share an immediate direct relationship with real world production and is itself a valuable activity. Education understood as *skholé*, however, is not an apprenticeship. Instead it is a place of 'turning something - a text, an action - into a 'subject matter' detached from the constraints of its current use, open as something to *attend* to, to be 'played with' - a situation in which children can, echoing Arendt, begin something new.

Attention is the third step in Masschelein and Simon's conception of *skholé*. For Masschelein and Simons (2013) suspension and profanation make *attention* to the subject matter possible. The *skholé* is not a place which remains remote from the world. Instead, it is possible to 'open up to the world at school' (42) Masschelein and Simons cite the example of a student who has everyday experience and knowledge of birds. However, through suspending her usual knowledge/attitudes, by attending to birds as a subject matter, she approaches birds anew, with fresh eyes, plays with the ideas that the matter presents and uses them to re-orientate herself to her knowledge of, and relationship with, birds in the world.

Masschelein and Simons (2013:43) counter the argument that schools are too remote from the world by challenging what is meant by 'the world'. They argue that for some the world is:

a place of applicability, usability, relevance, concreteness, competence and yield. They assume that 'society, culture or the labour market are (and must be) the ultimate touchstones of this world.

However, Masschelein and Simons 'dare to argue' that these touchstones are in fact chimeras in a dynamic world and argue that presenting them to children as touchstones is in fact a deceit. They recognise that competencies and practices do count for something, but not for everything that education can be. They argue that there needs to be the possibility that through the process of *skholé* ideas, language and practices can emerge. Although the immediate utility of these things may not be apparent these 'somethings' begin to become part of our world, and begin to form us (in the sense of the Dutch word *vorming*). Thus formation is not an auxiliary activity at school, 'something which exists *outside* the subject matter' (44). Instead:

Formation has to do with the orientation of students to the world as it is made to exist in the subject or in the subject matter, and this orientation primarily has to do with attention and interest for the world, and likewise attention and interest for the self in relation to the world. (Masschelein and Simons 2013:44-45).

It is these moments, I would argue, that open up 'spaces of appearance' where who one is as a human subject can emerge. It is a self which is produced intersubjectively with the world and allows for the possibility of natality - to

reference Arendt - of acting as an *initium*, a beginner who can open up new ways of knowing, being and acting in the world. It allows for what Rancière calls *dissensus* - the insertion into the existing world of something new which has no right to be under the existing arrangement of the sensible world - something which then changes the existing world. The approach explored by Masschelein and Simons is not a call for a 'traditional' rather than vocationally orientated education. It is a call for education as *skholé*, or at the very least education which allows moments of *skholé*: moments made possible by suspension, profanation and attention. *Skholé* encourages the possibility of 'spaces of appearance' in which the self can appear as an *initium* who can open the possibility of unknown futures. Education, understood as *skholé*, through its engagement with the abundant possibilities which the *initium* brings into the present, can thus also be described as a 'pedagogy of the present' (Facer 2016) with its emphasis on keeping in play the abundant possibilities available in the present which can then open as yet unknown and unknowable opportunities in the future.

5.6 Education as democracy, education as sustainability

As I have explored in this chapter, the European Enlightenment brought the issue of subjectification - what it is to be a human subject who takes responsibility in the world - into the field of education. Yet, in deciding that a subject is a rational autonomous individual the (European) Enlightenment project then paradoxically closed down other ways of being in the world. The decision of *who* one is, or will become as the result of education is already made. An education which leaves the question of human subjectivity radically open can create ways of being as yet unforeseen. It allows 'who' one is to emerge. What is at stake, then, is not only an issue of education, but also an issue of democracy. Education which engages with the issue of who one is in the world can be understood as education as a radically democratic process - education as radical democracy. It is radical because it allows in unforeseen ways of being, knowing and acting. A radically democratic education does not only include those excluded before, it is not just an issue of inclusion, albeit that

is also important. It allows for a reconfiguration of how the world, and ways to be in it, are understood. As Facer (2016:60) emphasises:

It is in the reframing of democratic education as a politics of disclosing and holding open new possibilities *for all future generations* [original italics] rather than realising of the pre-defined dreams of today's generation of adults, that a different form of educational project becomes available.

The paradox of sustainability, namely that in order to sustain something it must be allowed to grow into something which it is not, something unforeseen by us, means that education practiced as education as radical democracy is also education as a sustainable process - education as sustainability. Engaging with 'spaces of appearance', engaging with new ways to be a human subject who acts and takes responsibility in the world, thus creates a bridge between education as radical democracy and education as sustainability.

This does raise, however, the important issue of ethics. If new ways of being in the world are encouraged the question then arises of what if ways which emerge are deemed unethical and also who gets to decide. Arendt, through her conception of promising and forgiveness provides a way for us to engage with this critical issue. This issue of emergent ethics and Arendt's ideas are explored in the next chapter.

5.7 Summary of chapter

In this chapter, building on Biesta's 'pedagogy of interruption', I have identified that in the (European) Enlightenment framing currently dominant in education *who* one is as a human subject, namely a rational autonomous individual, is already decided. I have argued that if the emergence essential for sustainability is to be allowed into education then it is necessary to interrupt this framework. I have argued that engaging with Arendt's conception of 'spaces of appearance' can play an important role in such an interruption. I have built an understanding of 'spaces of appearance' as spaces where, through acting and speaking in the presence of others who are themselves unique beings, 'who' one is as an *initium*, a beginner, can emerge and bring new ways of knowing, being and

acting into the world. Whilst accepting that 'spaces of appearance' cannot be forced, produced as a predetermined end, I have argued that ideas of Arendt, Mouffe, Rancière can encourage such moments. I have also drawn attention to the Greek concept of *skholé*, the etymological root of the word 'school', in the work of Masschelein (2011) and Masschelein and Simons (2013). I have argued that education as a 'free-time', a space protected from politicisation by the political issues of the day can contribute to the opening of 'spaces of appearance'. I have argued that encouraging conditions where 'spaces of appearance' are a possibility, (spaces in which what it is to be a human subject who can act in the world is left radically open), builds a bridge between education as a radically democratic process and education as a sustainable process through encouraging the emergence of the radically new essential for sustainability. I end the chapter with a recognition that encouraging conditions in which emergence of the new is a possibility raises important ethical concerns and indicate that this is the subject to be explored in the next chapter.

Chapter 6 - Arendt's forgiveness and mutual promising: A contribution to the issue of ethics and emergence

6.1 Introduction

I have argued in this thesis that the concepts of sustainability and education for sustainability contain a paradox. To 'sustain' something is 'to cause something to continue for an extended period of time' (Oxford Living Dictionary: English, Online). The paradox is that to 'sustain' something it must also be allowed to 'grow' into something different than it is. Growth and emergence of new ways of being, knowing and acting in the world are essential for sustainability and it is not always knowable in advance what that 'something' will be. However, if emergence of the new is encouraged this then raises the question of how the ethical issues of what emerges are to be considered and who gets to be involved. The philosopher Hans Jonas argues that we live in an unprecedented era and that this has created *The imperative of responsibility* (1984) to think about our ethical relationship with the future. Jonas argues that in previous times man's powerful and sometimes harmful forays into the wider world made marks upon it but the natural world could absorb these: 'The earth was deathless' (*Antigone*, cited in Jonas 1984:2). Human action played out against a backdrop of a world which changed but remained fundamentally 'undamaged' by human actions. Ethical principles of good and evil, enjoinders 'to do' or 'not to do' were built on this premise. Predicting the 'Anthropocene'³⁹ Jonas argued that modern technology has changed humanity's relationship with the wider world. What humanity does now has the potential to damage, and many argue is already damaging, the world in profound and permanent ways.

³⁹ As I introduced in chapter two the 'Anthropocene' is a term initially introduced by Crutzen and Stoermer in 2000 to denote the present time interval, in which many geologically significant conditions and processes are profoundly altered by human activities. In 2016 the International Commission on Stratigraphy working party voted in favour of accepting the term subject to identification of a specific signal which can mark the change.

Now, more than ever before, ethical frameworks are needed that can help humanity cope with the unpredictability, unboundedness and irreversibility of new ways of being, knowing and acting in the world. In this chapter I argue that Arendt's conception of promising and forgiveness provides a useful way to approach this issue of ethics and emergence, a possible starting point or first step. I then discuss how these ideas can inform an education which takes the issue of sustainability seriously. This is not an accidental conflation of ethics and politics. It is a deliberate argument emphasising how Arendt's orientation towards the political arises from the ethical dilemma of how to live with others, how to bear with 'strangers forever in the same world' (1994 [1956]: 322), without falling prey to totalitarianism and all that it can, and has, unleashed in the world. Bernstein (2002) highlights Arendt's concern with the dangers and impact of totalitarianism as a 'thought train' which runs through and unites her work. Whilst not wanting to limit Arendt's thinking to her experiences of, and response to, the rise of totalitarianism in the 1930s and to the Holocaust Bernstein notes its significant impact on the direction her work took. Topolski (2015) and Botbol-Baum and Roviello (2013) argue that whilst both Arendt and the ethical philosopher Levinas were students of Heidegger, and informed by his ideas, the catastrophic events of the Second World War and the Holocaust caused an *arrachement* – a wrenching/tearing away or abruption - of their ideas from those of Heidegger. Whilst Heidegger's focus was on being as a singularity their concern was for being together with others ethically and '*what arises in the space between I and we*' (Topolski 2015:176, emphasis added). Topolski calls this a concern for *Mittsein* rather than *Dasein*. I acknowledge that this ethical turn is a bold move since Arendt is usually categorised as a political thinker, with Birmingham (2006:131 cited in Topolski 2011:7) going so far as to state 'the most difficult aspect of Arendt's political theory is her insistence that the ethical be removed from political thinking'. In this chapter I highlight that whilst Arendt always strongly argued against a normative ethical approach in the political sphere she did, through her two-fold approach of forgiveness and mutual promising, argue for the importance of an immanent horizontal ethics emerging between people speaking and acting together.

6.2 Arendt's forgiveness and mutual promising - a two-fold action.

Arendt develops her conception of forgiveness and mutual promising through her writing, for example in *The Jewish Writings*⁴⁰ (2007), *The Human Condition* (1974 [1958]) and *On Revolution* (1973 [1963]). The concept forms an integral part of her concept of action. For Arendt (1974 [1958]:237):

Without being forgiven, released from the consequences of what we have done, our capacity to act would, as it were, be confined to one single deed from which we would never recover; we would remain the victim of its consequences for ever, not unlike the sorcerer's apprentice who lacked the magic formula to break the spell.

On mutual promising, Arendt (1974 [1958]: 237) comments:

Without being bound to the fulfilment of promises, we would never be able to keep our identities; we would be condemned to wander helplessly and without direction in the darkness of each man's lonely heart, caught in its contradictions and equivocalities - a darkness which only the light shed over the public realm through the presence of others, who confirm the identity between the one who promises and the one who fulfils, can dispel.

Plurality is central to forgiveness and promising since, as Arendt explains in this quotation, one cannot forgive oneself nor be bound to a promise only made to oneself in isolation. Arendt draws a distinction between her thinking and that of a Platonic rulership which is based on a relationship between 'me and myself'. To explain this, she points out that in a Platonic approach to morality, based on singularity, the starting point is the self - 'how one rules himself, he will rule others' (1974 [1958]:238). Arendt thus also departs from Kant, whose conception of morality, building on a Platonic approach, is based on autonomy. For Arendt morality is rooted in plurality, in action between people in the public domain. It is how one is forgiven and promised to that one in turn forgives and makes promises to oneself. This is the central idea I explore in in this chapter.

Commentators such as Birmingham (2006) and La Caze (2014) emphasise the political nature of Arendt's thinking on forgiveness and mutual promising. Topolski (2011, 2015), however, asserts that Arendt's writing cannot be understood simply within a Western/Hellenic understanding of politics and of

⁴⁰ This is a collection of Arendt's writings from the 1930s through to the 1960s.

philosophy. Instead, Arendt's thinking stands *hors catégorie*, arising as it does from both Western philosophy and political models and from the Judaic - 'an intellectually rich space which exists between faith and philosophy' (Topolski 2011:2). Jakub (2005:2) comments that whilst Arendt does draw extensively on Greek and Roman political models her project is not a Greek or Roman one, although it is often understood as such. Instead these models are starting points to:

guide Arendt's own analysis and provide her with material from which she can distil anew the authentic meaning of politics.

Topolski supports her argument for the Judaic by noting how Arendt makes specific reference to Jesus of Nazareth and also to the Hebrew root (*shuv* - turn, a dynamic process) of the word 'forgive' in *The Human Condition* (1974 [1958]:240) and writes about the Jewish concept of *teshuvah* in *The Jewish Writings* (2007). Topolski argues that the Hebrew concept *teshuvah* is crucial to understanding Arendt's ideas of forgiveness and mutual promising and indeed these two acts 'belong together' (Arendt 1974 [1958]:237) and form into a single concept. *Teshuvah* has the meaning of forgiveness, but cannot simply be translated as forgiveness in a psychological sense of 'I forgive you'. *Teshuvah* involves a sense of a move away from wrong doing and a turning toward a commitment (or promise) by all to act in new ways, emphasising *the action of turning*. It has an orientation both towards the past and toward the future. It emphasises plurality and enables us to consider:

forgiveness as an act that occurs between people complemented by the promises necessary to create and strengthen the sometimes fragile bonds between people (Topolski 2011:7).

Topolski points out that for Arendt forgiveness and mutual promising:

arise directly out of the will to live together with others in the mode of acting and speaking together, and thus...they are like control mechanisms built into the very faculty to start new and unending processes. (Arendt 1974 [1958]: 246).

It is this *horizontal relationship* between people which is the source of a dynamic *horizontal ethics* that, to cite Topolski (2001: 8-9):

arises from a plurality, and in the between, rather than coming from without or above. A relational ethic, rooted in a 'relative' and horizontal

transcendence, helps us to strengthen the fragile human realm by providing a web of relations with faith and hope, both of which are fundamental to the political.

Understanding forgiveness and mutual promising as the twofold *action of teshuvah*, as horizontal ethics between people, makes an important contribution to ways to approach the issue of ethics and emergence of the new. In order to explore this two-fold action it is necessary to look at each aspect in more detail, consider how they interrelate and who is involved in the process. This is the task I undertake in the following sections of this chapter.

6.3 The aspect of forgiveness

In this section I explore the notion of forgiveness in Arendt's thinking and how it can contribute to the issue of ethics and the emergence of new ways of knowing, being and acting in the world. It is important to note that the section is focusing on forgiveness as an *aspect* of a two-fold dynamic whole whose two aspects 'belong together' (Arendt 1974 [1958]: 237). In this section I explore Arendt's ideas on the aspect of forgiveness in more detail. These ideas include how forgiveness is a necessary remedy for the irreversibility and unexpectedness of the new in the public realm; how the power/ potential to forgive is a horizontal political power that lies between people; that most evil is not willed evil but instead trespasses which can be forgiven quite easily and that this is necessary; that forgiveness is an expression of man's freedom and that it is possible to forgive someone for the sake of 'who' they are.

6.3.1 Forgiveness - a necessary and important feature of, and for, action in the public realm

Arendt outlines how the remedy against the irreversibility of action lies with the potentiality of action itself. For Arendt:

The possible redemption from the predicament of irreversibility - of being unable to undo what one has done, though one did not and could not,

have known⁴¹ what he was doing - is the faculty of forgiving...forgiving serves to undo the deeds of the past, whose sins hang like Damocles' sword over every new generation (Arendt 1974 [1958]: 237).

For Arendt forgiveness is not (only) a personal act but a key aspect of political life lived with others. The phrase 'serves to undo' could be understood to introduce a suggestion of a reversal of time, a position incompatible with the complexity and complexity-compatible framing underpinning this thesis. However, the redemptive force of forgiveness as proposed by Arendt is not an escape from, or closure of, the past through a reversal of the past act. Instead, as Arendt clarifies (1974 [1958]: 240), mutual forgiveness enables **a release**⁴² from past misdeeds and:

Only through this constant mutual release from what they do can men remain free agents, only by constant willingness to change their minds and start again can they be trusted with so great power as that to begin something new.

Thus, mutual release from past acts enables the possibility of natality, the birth of new ways of being and acting in the world upon which 'our hope relies' (Arendt 2006c [1961]:189).

Arendt makes (1974 [1958]: 238) the observation that:

The discoverer of the role of forgiveness in the realm of human affairs was Jesus of Nazareth ...The fact that he made this discovery in a religious context and articulated it in religious language is no reason to take it any less seriously in the strictly secular sense.

For Arendt, a political perspective on the significant discovery made by Jesus of Nazareth was that:

It is not true that only God has the power to forgive and second that this power does not derive from God - as though God, not men, would forgive through the medium of human beings - but on the contrary must be mobilised by men towards each other before they can hope to be forgiven by God also. Jesus' formulation is even more radical. Man in the gospel is not supposed to forgive because God forgives and he must do

⁴¹ The process in which one acts but 'one did not and could not, have known what one has done' is what Arendt (1974 [1958]: 237) calls unboundedness. Unboundedness arises because others take up our beginnings in unexpected ways we did not and could not have anticipated.

⁴² For further discussion of this notion of 'releasing' see Young-Bruehl 2006:100.

“likewise,” but “if ye from you heart forgive”, God shall do “likewise”⁴³ (239).

Forgiveness, then, arises between people. It is a *horizontal* relationship.

Arendt also explores the types of transgressions committed by mankind. She argues that mostly this is not extreme evil⁴⁴, rather it is ‘trespassing’ and states that it:

needs forgiving, dismissing, in order to make it possible for life to go on by constantly releasing men from what they have done unknowingly. Only through this constant mutual release from what they do can men remain free agents, only by constant willingness to start again can they be trusted with so great a power as that to begin something new (240).

The power to forgive stands in contrast to vengeance which is its exact opposite. For Arendt, it is vengeance which ensures that:

Far from putting an end to the consequences of the first deed, every party remains bound to the process, permitting the chain reaction contained in every action its unhindered course (240).

Arendt recognises that vengeance is a predictable response to a wrong deed but forgiveness enables man to act in unexpected ways. It is therefore through forgiveness that humans can express their freedom. For Arendt:

in other words, [forgiveness] is the only reaction which does not merely re-act, it acts anew and unexpectedly, unconditioned by the act that provoked it and therefore freeing from its consequences both the one who forgives and the one who is forgiven (241).

A further key aspect of Arendt’s thinking on forgiveness is the possibility of forgiveness for the sake of ‘who’ a person is rather than focusing on what they have done. Arendt notes that in religious thought, such as in Christianity, love is identified as the driving force behind the action of forgiveness. Arendt, however draws instead on a concept of respect built on Aristotelian *philia politikē*. She explains this as:

A kind of ‘friendship’ without intimacy and without closeness; it is regard for the person from the distance which the space of the world puts

⁴³ Arendt cites Matt, 18:35 and Mark 11:25 in her footnote in *The Human Condition* (1974 [1958] :239) to support this argument.

⁴⁴ The issue of extreme evil is explored later in this section.

between us, and this regard is independent of qualities which we may admire or of achievements which we may highly esteem (243).

It is a mistake, and also a feature of the modern world, according to Arendt, to think we can only respect people whom we admire or like. Respect, understood in the sense of *philia politikē*:

because it concerns only the person, is quite sufficient to prompt forgiving of what a person did for the sake of the person (243).

Remembrance of the past and forgiveness have become important themes in the political sphere since Arendt's death in 1975. Two different approaches provide interesting examples of the role of remembrance and forgiveness as a foundation for the possibility of natality. The first is from Spain and the second is from South Africa.

6.3.2 Two different examples of approaches to the role of forgiveness in the public realm

Arising from his 'victory' in the Spanish Civil War General Franco ruled Spain from 1938/9 to 1975. Mallinder (2008:52) comments that:

From the early 1970's when Franco's death seemed imminent, opposition parties formed a broad coalition to demand a clean break with the old system, political reform and a complete political amnesty.

This led, after Franco's death in 1975 to the law *Ley de amnistia* 46/1977 which became popularly known as the Pact to Forget (Tremlett 2006; Ash 1998; Biggar 2007). The justification was that an amnesty from 'everyone to everyone' was justified since both sides had committed 'bloody crimes' (Mallinder 2008: 67).

Two young Spaniards, Bea and Pablo describe how under the Pact to Forget:

The post-war period and Franco's dictatorship became a taboo when the democracy arrived in 1975: Politicians thought that forgetting the past would help to avoid the ghosts of the dictatorship. And that interest of 'brooming' our past (for most of us our history) affected two very important areas: education and politics (Chave 2012: 23).

In 2000, recognising that to move into the future with confidence depends on confronting and dealing with the past, a political movement began to explore how to treat the past differently. In 2004 a commission was established and in 2007 the Law of Historical Memory was established. This enabled a process of

investigation, rehabilitation and the healing of past wounds, which included the process of forgiveness, to take place in the public domain.

The approach to the past in South Africa in the 1990s had a strong focus on the role of forgiveness from the outset. The official end of Apartheid, and the subsequent elections in 1994 which brought the ANC party to power, with Nelson Mandela as the President, saw the creation of the Truth and Reconciliation Commission (TRC). Young-Bruehl (2006), drawing on Archbishop Desmond Tutu's account *No Future without Forgiveness* (2000) explores both the centrality of forgiveness in the process, and also who was able to forgive and receive forgiveness in this process. The TRC was not a court issuing sentences and punishments. Instead, the TRC was able to offer amnesties to perpetrators of violence who underwent the following process. Firstly, they had to fully disclose their actions, and the burden of demonstrating full disclosure in the public domain fell on them. This approach was adopted as it was felt that:

this brought out much more of the truth of what had happened than had the criminal trials conducted as apartheid ended (and while Afrikaners dominated the courts) (Young-Bruehl 2006:115).

Then, once all the amnesty information had been assembled:

the TRC arranged meetings between perpetrators and their victims, people who had been tortured or lost family members and comrades either to the state policy of killing and torture or of the anti-apartheid resistance. At these meetings the offenders spoke first; the victims could then tell their own stories and question the offenders. After this the victims could decide for themselves whether to forgive or reconcile themselves with their offenders. Forgiveness, it was understood, could not be requested of the victims by the Commission: it had to be freely chosen by the individuals who had been wronged (Young-Bruehl 2006:115).

Forgiveness was a public act by both parties. Moreover, it was understood that forgiveness could only be given by the victim of the act needing forgiving – both key features of Arendt's concept of forgiveness.

The process also highlighted the importance placed on forgiveness to make a new way forward possible. In this regard, Young-Bruehl comments that she was particularly struck by the story of two victims, widows of two black policemen

assassinated by Eugene de Kock, former head of the South African security police's death squad. After listening to de Kock's remorseful account, Mrs Faku, one of the widows, said:

I couldn't control my tears. I could hear him but I was overwhelmed by emotion, and I was just nodding as a way of saying, yes I forgive you...I would like to hold him by the hand and say there is a future and that he can still change (116).

Young-Bruehl comments:

Mrs Faku spontaneously included in her act of forgiveness an invocation of the new beginning, the different future that a releasing act of forgiveness can make possible - and that repentance prepares the way for. She wanted his change of heart, his repentance, to be the beginning of his re-entry into the human fold he had denied and stepped out of (116).

These two examples provide powerful examples of the way attitudes towards engaging with past wrongs have changed in recent history. They highlight the value of forgiveness in the process and its centrality for making the new a possibility. They highlight the important point emphasised in Arendt's thinking, that the power to forgive arises between people acting in the public domain. It is a horizontal power rather than an understanding of power as coming from above from some kind of divine or sovereign force.

As emphasised in the introduction to this chapter forgiveness, for Arendt, is one aspect of a whole. Receiving forgiveness is not a passive action on the part of the recipient. It requires *shuv* – a turn - away from one's past acts and a commitment, a promise made publicly to act in new ways. This act of turning by the recipient of the forgiveness is integral to forgiveness. Mutual promising is not an 'extra' process that happens after forgiveness but part of it and allows for the emergence of the new. Mutual promising is the subject of a forthcoming section in this chapter. However, before this, it is important to consider the issue of whether there are any situations where the wrongdoing committed is beyond forgiveness. This is because an approach to ethics which proposes the importance of forgiveness needs to take seriously possible limits to such forgiveness, as well as causes of such extreme evil, if one wants to keep open the possibility that particular acts of extreme evil could be avoided in the future.

6.3.3 Limits to forgiveness – the issue of extreme evil

Young-Bruehl explains how Arendt's arguments regarding possible limits to forgiveness builds on Kant's notion of radical evil. For Kant radical evil is:

That type of evil, in Kant's view, which is rooted in (has its *radix* in) an evil motivation, an intention to do evil, a person's evil heart (Young-Bruehl 2006:2).

Radical evil was identified as being a rare occurrence by Kant and quite different from evil done out of ignorance or of actions gone awry. Arendt identified the deliberate use of scientific methods to plan and carry out the extermination of the Jewish people as an instance of such extreme evil. For Arendt the Holocaust falls into a category *beyond* the realm of *human action* and therefore is not something that can fall into the realm of human forgiveness. Arendt was concerned to explore both the process by which such a move beyond the human realm occurred and also the source of such extreme evil.

In *Origins of Totalitarianism* (1973 [1951]) Arendt identifies a perverted three-step process in which the rights of a person or group of people are progressively removed and the extreme evil of totalitarianism - a central concern for Arendt throughout her writing - can emerge. Through this perverted process a person or group is removed from the human realm: they appear to become 'superfluous' and thus destroyable. Firstly, judicial rights are removed, then the ability to make moral decisions, for example when, in Germany in the 1940s, a Jewish community leader could be forced to choose between:

betraying and murdering his friends or sending his wife and child for whom he is in every sense responsible, to their death; and even suicide would mean the immediate murder of his own family (Arendt 1968 [1951]:150).

This leads to the third step in the creation of a person as superfluous: the removal of their ability to act spontaneously, the denial of any possibility of natality. There is an interesting link here to the experience of Frankl (2004) discussed in the previous chapter. He argues, from his experience of totalitarian treatment in the Holocaust, that it was the mental ability to resist this third step, the denial by his persecutors of his personhood, that contributed to his survival. This resistance arose from the possibility of choosing to respond in unexpected

ways to his persecution. However, there is a significant difference between Arendt's thinking on the cause of what she called 'extreme evil' and that of Kant. Arendt moves away from a Kantian understanding of extreme/radical evil as stemming from an evil root within people's heart, evil as the actions deliberately performed by an 'evil monster'. She came instead to an understanding of extreme evil which is perhaps even more shocking - that it is possible to perform extreme evil *thoughtlessly*. In *The Human Condition* Arendt comments that:

thoughtlessness: the heedless recklessness or hopeless confusion or complacent repetition of 'truths' which have become trivial and empty - seems to me among the outstanding characteristics of our time (Arendt 1974 [1958]: prologue p.5).

Her thinking in *The Human Condition* and her experience in 1963 as the reporter for *The New Yorker* magazine at the trial of Eichmann, an SS Officer responsible, amongst other crimes, for the deportation of Jewish people to extermination camps, led to the development of her controversial idea of 'the banality of evil'. In a letter to her fierce critic, Gershom Scholem (cited in Bernstein 2002:218), she defends her position on the banality of evil, stating:

It is indeed my opinion now that evil is never radical that it is only extreme, and that it possesses neither depth nor any demonic dimension. It can overgrow and lay waste to the whole world because it spreads like a fungus on the surface. It is 'thought defying' as I said before because thought tries to reach some depth, to go to the roots, and the moment it concerns itself with evil, it is frustrated because there is nothing. That is its banality.

It is very important to note, however, that for Arendt, banal evil is still extreme evil beyond the realm of human action. It is still an evil which creates a person or group of people as superfluous. This point was misunderstood by many when Arendt first used the term 'the banality of evil' and it was popularised in the media. Arendt was criticised, even pilloried, in the ensuing controversy, (especially as she resisted taking a simplistic approach to the issue, also raised in the trial, of the role of the Jewish councils in Germany and the countries Germany occupied [Benhabib 2000]). However, Arendt was not claiming that the evil was banal – what was banal was the thoughtless way that the extreme evil was performed. She had expected to come face to face with an evil monster

when she looked at Eichmann in the court but found the reality of the situation very different, and much more complicated. For Arendt actions of extreme evil, whether performed by an evil monster or through banality, places its perpetrators outside the realm of human forgiveness (since it occurred outside the realm of 'human' action). Both Derrida and Young-Bruehl, however, explore whether there are other possible ways forward.

Derrida (2001) proposes the notion of 'a hyperbolic' ethical vision of forgiveness'. Janover (2005:225) explores how 'hyperbolic' in the sense that Derrida is using it is not a rhetorical device meaning overblown. Janover proposes that Derrida is using 'hyperbolic' in its mathematical sense of eccentric, or off-centred and comments that Derrida's hyperbolic ethics 'depicts forgiveness as a moment of quandary and decision' (225) that:

Should not be normal, normative, normalising. It should remain exceptional and extraordinary in the face of the impossible: as if it interrupted the ordinary course of historical temporality (Derrida 2001:45 cited in Janover 2005:225).

Janover (2005:225) comments that Derrida's 'unconditional forgiveness' (which Janover calls 'radical forgiveness':

severs or exceeds the loop that binds ordinary forgiveness to remorse, a change of heart, reconciliation, repatriation or restitution to the injured (225).

It is the interruption or severing of the ordinary loop of forgiveness which enables a new starting point, a new way to build the future even in the face of the most extreme evil.

Young-Bruehl (2006:122) in exploring the Truth and Reconciliation Commission (TRC) in South Africa proposes that Arendt perhaps underestimated the human power to forgive. She notes that Tutu and the TRC draw on both a Christian notion of forgiveness and the African notion of *Ubuntu*. Young-Bruehl sees parallels between Arendt's interpretation of Aristotle's *philia politikē* and *Ubuntu*. Tutu (1999) explains *Ubuntu* in the following way:

Ubuntu (in the Nguni group of languages) is very difficult to translate into a Western language. It speaks at the very essence of being human...you are generous, you are hospitable, you are friendly you are

compassionate. You share what you have as if to say “my humanity is inextricably bound up in yours”. We belong to a bundle of life... To forgive is not just to be altruistic. It is the best form of self-interest. What dehumanises you inexorably dehumanises me...Forgiveness gives people resilience, enabling them to survive and emerge still human despite all efforts to dehumanise them.

Young-Bruehl points out that the activities of the TRC were not part of a judicial process of punishment and it is important not to make easy comparisons between the TRC and the court process, as in the case of the Eichmann trial. She concurs with Arendt that judicial processes are necessary to consider punishment, however inadequate it may seem in the face of crimes against humanity. The processes are needed to establish the nature of such crimes and set precedents which can act as the grounds and guides for future legislation, for example the legislation enacted in the International Courts for the trial of crimes against humanity and for genocide. What Young-Bruehl (2006:121) does point out is that forgiveness, and the *Ubuntu* or *philia politikē* that makes forgiveness possible:

Needs to be cultivated by and in political processes where it is assumed (in Arendt’s manner) that forgiveness, as a structural element of human affairs, is a necessity of political life. Adapted to local circumstances, forums like the TRC should be as much part of political life to deal with past conflicts as forums for treaty negotiation - promise making - are to secure against future conflicts. Forgiveness is not just an action that can take place, it is an action which should be encouraged; it is not a process, not a replacement, for judicial process or punishment - that is not a way of encouraging criminals to act with impunity or a sense that all will be forgiven – but a potential means of preventing an endless imprisonment in the past.

For Young-Bruehl the possibility of forgiveness is something which the TRC shows should not be underestimated, that a *possibility* of forgiveness exists as long as man exists in the world.

6.3.4 Possibilities which the aspect of forgiveness presents to education.

I would like to emphasise three points from these discussions of forgiveness for those involved in education, especially an education which emphasises the importance of the emergence of the new essential to resolve the paradox of sustainability. Firstly, education can be a place where it is possible both to

explore, practice and even encourage the notion of forgiveness of both unintended evil, and extreme evil as an integral, necessary part of life in plurality. Such explorations can include but never fully answer the question of where the limits lie beyond which humans cannot forgive, or indeed if there are such limits. This ambiguity is something to explore, reflect upon and discuss. Secondly, education can be a place to explore the idea that extreme evil does not always arise from evil roots, but can arise from banality, from thoughtlessness with regard to habits or 'repeated truths'. A deep questioning of such habits would reveal their wrongness but often habits or ways of acting in the world remains unexamined, even within the world of education – a point which the environmental thinker Orr (2004) makes in relation to what he considers to be the heedless way we treat the wider natural world. Thirdly, education can be a place where one can consider how forgiveness opens the possibility of the new, of turning from past evil and turning towards the future and that the power for, and of, this turning lies between people. This is a *horizontal ethical power* which *potentially* exists between people. This could be between victims and forgiven wrongdoers as Young-Bruehl and Derrida propose. Or it could be, following Arendt's thinking, between victims and those forgiven of trespasses but where wrong-doers who perform rare acts of extreme evil are excluded. In such cases the possibility of beginning anew lies between people making a commitment to living in plurality and upholding a public domain where no-one is deemed 'superfluous'.

In the context of education exploring sustainability it is important also to explore and challenge the anthropocentric emphasis implied in the word 'no-one' in the previous sentence. It is important to broaden this to incorporate the wider natural world by using an expression such as 'no-one'/'no-being'. I take up the issue of extending the ideas explored in this chapter to include the wider natural world in chapter seven.

Mutual promising is an integral part of the act of forgiveness, this dynamic motion or *shuv* in the thought of both Arendt and Young-Bruehl. I therefore examine this aspect in detail in the next section.

6.4 The aspect of mutual promising

In Arendt's thought mutual promising is not just something that comes after forgiveness. Rather the act of promising as *shuv*, a turning from past wrongdoings is part of forgiveness. It enables the possibility of a turn from the errors of the past which arise from the irreversibility, and unboundedness of action towards the hope of the future. In this section I explore Arendt's ideas on the relationship between unpredictability and mutual promising; her emphasis that the power to make and keep mutual promises is a horizontal power arising between people and her idea that power be understood as dynamic, as potentiality to act.

6.4.1 Mutual promising, unpredictability and hope for the future

The future is unpredictable. For Arendt, however, this unpredictability is a necessary part of political life. Unpredictability is the price of freedom to act and of not being ruled over by another. Arendt comments that this unpredictability is of a two-fold nature that:

Arises simultaneously out of the darkness of the human heart, that is the basic unreliability of men who can never guarantee today what they will be tomorrow, and out of the impossibility of foretelling the consequences of an act in a community of equals⁴⁵ where everybody has the same capacity to act (1974 [1958]: 244).

For Arendt promising has the potential to be a stabilising force which partially dispels the unpredictability which the future brings. Promising can provide 'guideposts of reliability' and 'isolated islands of certainty...in a 'sea of uncertainty' (244). However, the faculty of promising loses 'its quality of the freedom to act' the moment that it is 'misused to cover the whole ground of the future and to map out the path secured in all directions' (244). If misused in this way promises 'lose their binding power and become self-defeating' (244). Thus, Arendt emphasises the importance of keeping the possibility of the emergence of new and unexpected ways of knowing, being and acting in the world open. As Arendt highlights, the idea of 'isolated islands of certainty' needs some careful consideration if emergence of the new is to be a possibility. In a radically unknown future nothing can be 'certain'. However, one can make a promise to

⁴⁵ Habermas (1994) questions whether there is an equality to act. I explore this issue later in the chapter in discussions around structural violence.

approach an issue with a particular commitment as circumstances emerge and change. For example, a promise to feed a child three times a day and provide the calories recommended for their age group would be a specific promise but be too inflexible. It would close down the potentiality of making choices as different needs, hopes and desires emerge in the future: choices about the kind of food the child wants to eat informed by the processes involved in food production, personal tastes and the possibility of moments of a joyful shared indulgence. A different kind of promise is needed. Approaching 'the future as a site in which novelty is possible' (Facer 2016:62), one can make a commitment to responding to emerging nutritional needs and choices of the child, as they arise. The promise to do this can provide a child with a secure base, an 'isolated island of certainty', from which to explore the world. Arendt has confidence in the power to make promises. This is an important aspect of Arendt's thinking which I now explore in more detail.

6.4.2 The power to make mutual promises

In Arendt's thought, the power to make *mutual* promises arises horizontally between people speaking and acting in 'spaces of appearance'. It provides an alternative to both domination of the self by another and also isolation from the other. In *The Human Condition* (1974 [1958]: 243) Arendt draws on the example of Abraham who showed 'such a passionate drive towards treaty making' it was as though he left his home country and made mutual (horizontal) promises with other tribes until in the end God eventually made a covenant with him (an example of vertical relationship of power and promise making). In *On Revolution* (1973 [1963]) Arendt again draws attention to the importance of mutuality and the horizontal source of power in promising. She cites the Mayflower Compact, declared by the colonists in 1620 as they approached America:

Solemnly and mutually in the presence of God and one another we covenant and combine ourselves together in a civil Body Politic...and by virtue hereof enact, constitute and frame, such just and equal Laws, Ordinances, Acts, Constitutions, and offices, from time to time, as shall be thought most meet and convenient for the general Good of the Colony; unto which we promise all due Submission and Obedience (Arendt 1973 [1963]:173).

This is a commitment to respond to emerging situations 'as shall be thought most meet' (173) - and in such an emergent sense, the commitment to act in this way, is an 'isolated island of certainty in a sea of uncertainty' (244).

Parekh (2007) identifies several key features which Arendt noted made this Compact distinctive. Firstly, the Compact was a mutual promise, based on reciprocity and a presupposition of equality between people, to 'gather together the isolated power of individuals' into a body politic. This was an alliance, rather than an agreement where individuals consented to give up their potential individual power in order to be ruled by another. Secondly, the Compact recognises that mutual promising necessarily takes place in the *presence of others*, in plurality. Here one can recall the importance of publicity in the thinking of Masschelein and Simons (2013) which I explored in chapter five. It is *in and through the act of 'publicity'* that ideas emerge, rather than understanding the formulation of the promising as preceding their declaration. Thirdly, the colonists showed remarkable confidence in their capacity to make and keep promises *to each other*. Although they made the promises in the presence of God they made the promises to each other. Parekh (2007: 75) notes that in Arendt's analysis the success of the Compact and subsequent compacts, in for example the American Revolution, was that the American political experience recognised that, whatever a man's past and motivation:

People, in their singularity, could bind themselves into a community and thus human nature could be checked through common bonds and mutual promises.

La Caze (2014:217) identifies two important differences between Arendt's concept of mutual promising, as seen in the Mayflower Compact, and social contract theory. Firstly, the concept of promises that Arendt develops relates to events not theories. La Caze comments how, for Arendt, promising is an event rather than a theory:

because it responds to specific difficulties in a particular context and is based on actual mutual confidence in the faithfulness and determination of others.

Secondly, La Caze points out that Arendt's concept of promising differs from social contract theory in that Arendt's concept is based on a genuine plurality, a forming of loose alliances through which the power to act with unique others

and keep promises is made possible. In contrast, social contract theory assumes a theoretical agreement between people whilst neglecting their differences. It assumes a willingness by individuals to sacrifice their power to act to an agreed state power.

Another key feature of the power which emerges in 'spaces of appearance' and enables mutual promise-making is that it should be understood as a *power potential*. Arendt (1974 [1958]:200) points out that the word 'power' has its roots in the Latin *potentia*. This root, understood alongside *dunamis* - the Greek equivalent of the Latin word *potentia*, foregrounds the meaning of power as a dynamic potential arising from free action. It is the potential for natality. Hinchman and Hinchman (1994:208) highlight Habermas' thinking which contrasts Arendt's conception of power as potentiality with that of Weber. Weber also conceives of power as potentiality but it is the potentiality to force one's will upon another. Arendt, however, understands that the potential to exert one's power over another in the way Weber conceives is in fact violence and a desire for domination, an issue she explores in *On Violence* (1970) and *The Human Condition*⁴⁶(1974 [1958]). She points to the impact or power of non-violent protest or direct action such as that proposed by Gandhi as an illustration that public action has a power potential even in the face of violence. Even death from violent acts demonstrates a power held by an individual. Death denies power from the person using such violence to dominate over the person who has died, although this may be only a limited comfort to that person and those they are close to. As I have already discussed in Chapter Five, Frankl (1996) identifies the experience of enacting power by choosing how to respond to the violence exercised against him and other prisoners in the Second World War concentration camps to illustrate the potential to have power even in the seemingly most powerless of situations. Indeed, as already mentioned, it is this holding on to, and enacting, this potentiality which Frankl believes maintained the humanity of the prisoners in the concentration camps and helped them to survive. Habermas (1994:244) argues that Arendt, in her focus on power emerging in communicative acts between people ignores the structural rather

⁴⁶ For example, see Arendt's discussion on page 244.

than physical 'violence' which can block participation in communicative acts in the public realm (not everyone has equal access to this realm). He argues that:

Structural violence does not manifest itself as a force; rather it blocks those communications in which convictions effective for legitimisation are formed and passed on.

This is an important criticism but drawing in Rancière's concept of *dissensus*, explored in chapter five alongside Arendt's natality, can help here. Even those who, in the existing 'arrangement of the sensible' have no right to speak can find ways to challenge existing structures and insert new ways of knowing, being and acting in the world. Schaap (2011) and Dikeç (2012) explore the example of the *sans papiers* (immigrant workers in France who had no papers or political rights) to demonstrate the possibility of *dissensus* and natality which interrupts and rearranges the existing structures. These *sans papiers* claimed the right to appear and speak in the public realm even though structural forces appeared to prevent this. There *is* the potential to challenge, to interrupt, structural as well as physical violence and barriers to participation in speaking and acting in the public realm. It is important to recognise the importance of challenging both types of violence/barriers.

6.4.3 The role of mutual promising in keeping the power/potentiality generated in 'spaces of appearance' open

Arendt introduces a further important aspect of the role of promising and its relationship with power/potentiality. For Arendt, in the same way that 'spaces of appearance' are fleeting and only exist when people gather to speak and act together, so too is the power generated there. Power 'disappears the moment they depart' (Arendt 1974 [1956]: 244). Mutual promising, which the power generated in 'spaces of appearance' makes possible, has the important role of keeping that power open and alive. Mutual promising keeps open the possibility that a group of people can 'be bound together for an agreed purpose for which alone the promises are valid (245)'. Such a binding together is superior both to approaches based on 'a will which somehow magically inspires them all', or a world in which people are unbound by any promises or shared purpose, since it sets up 'islands of security...in the relationships between men' (237). Keenan (2003:86) endorses Arendt's approach, pointing out that:

The force of promise lies in its ability to form a new political community or 'space' where none had been before, by deliberately leaving a trace or mark in the present that immediately becomes the past on whose basis the identity and the freedom of the community can be measured.

Keenan argues that promising thus has the ability to 'maintain or even enlarge' (*ibid* 88) the human power/potentiality for natality, for acting as an *initium*, a beginner who can act, who can interrupt and bring new ways into the world. For Arendt (1974 [1958]: 247) it is this power/potential for natality which brings hope and which ultimately can be 'the miracle which saves the world'.

It would be helpful at this point to consider a current example of a mutual promise making process in the public realm.

6.4.4 A contemporary example of mutual promising: The United Nations Conference on Climate Change - COP21, Paris 30.11 to 10.12.2015

In chapter two I introduced the chronology of the climate change conferences organised by the United Nations from the first event in Rio de Janeiro in 1995 and the difficulties experienced in the process. In this section I focus on the most recent event, COP21 held in Paris in November 2015. The aim of the COP21, organised by the United Nations, was to:

build a Paris Climate Alliance capable of keeping the average global temperature rise below 2°C compared to pre-industrial levels and adapt our societies to existing disruption (United Nations Conference on Climate Change: COP21. CMP 11, 2015: Online)

The Alliance has four components. Firstly, the Alliance negotiated at COPD 21 a universal agreement to establish rules and mechanisms capable of achieving the Alliance's ambition of keeping global warming within the 2°C limit scientists currently predict will avoid catastrophic climate change. Secondly, countries agreed to present their national contributions and forecasts for the reduction of carbon emission prior to COP21 to act as a motivation and starting point for the conference. Analysis showed that existing plans of participating countries would create global warming of 2.7 degrees. This is above the 2°C target but an improvement on previous predictions of up to 5 degrees of warming. Thirdly the Alliance considered and planned financial aspects, 'which should enable support for developing countries and financing of the transition towards low-

carbon, resilient economies before and after 2020' (United Nations Conference on Climate Change: COP21. CMP 11, 2015). Finally, on an ongoing basis, the Alliance will seek to strengthen the commitments of civil society and non-governmental stakeholders to reducing emissions. These talks arose in the context of a twenty-one-year history of attempted promise-making on climate change.

Harvey (2015) discusses how key anticipated sticking points were how to finance carbon reduction methods in poorer countries; how to reduce emissions to a level where the target of 2°C global warming can be achieved and the review mechanisms to be used to monitor progress.

The event, however, was not only the focus of politicians and international negotiators. An alliance formed by Christian Aid, Green Alliance, Greenpeace, RSPB, and WWF⁴⁷ had been analysing what needed to be considered and the reasons why. Speaking before the event they commented that:

While international climate negotiations are always complex and fraught, there are strong reasons for optimism about the outcome of the 2015 summit (Willis 2014:11).

Other campaigning organisations were more cautious. For example, Global Justice Now (2015: Online) expressed concern that the conference 'show[s] no sign of being less dominated by corporate interests than the last ones'.

It was originally anticipated that the summit venue would also be the scene of civil action (Neslen 2015). Plans were originally made to surround the venue with inflatable red lines. As John Jordan, an artist and prominent activist in the Laboratory of Insurrectionary Imagination, explains:

The idea is not to lock the delegates in but to have acts of civil disobedience that block the streets and infrastructure, if they cross red lines that are minimal necessities for a liveable planet (Neslen 2015: Online).

Concern for public safety after terrorist attacks in Paris in November 2015 led to a decision by the French Government not to allow demonstrations in public places to go ahead, although events in private indoor locations were permitted and supported. This led to an increased focus on the many local and national

⁴⁷ RSPB - Royal Society for the Protection of Birds and WWF - World Wildlife Fund.

events already planned for public places around the world to allow citizens to make their views felt. La Caze (2014: 207) highlights that Arendt recognises the importance of public political action of this kind since it keeps the public realm open and vital and can demonstrably express a 'public happiness' (Arendt 1973 [1963]: 127), an expression of 'the joy in revolutionary activity' (1972: 202).

The international activity discussed in this example relating to the climate change promise-making process reveals several interesting points. Firstly, it does show the possibility of making mutual promises and that surprising things can happen in the process. They do leave a trace which can act as a measure and create a space which over a period of time creates a move towards some progress. They can highlight sticking points such as the social justice issue around payment for the emission mitigation activities. They can act as a focus for education around climate change and for expression of individual political action. These examples of carbon emissions negotiations demonstrate the importance placed by Arendt on the potentiality of promises around specific commitments, without defining them too narrowly. This can be contrasted with some of the earlier negotiations which were very general and did not prove successful in guiding countries towards change. It is also interesting that the aim was to create an *alliance* rather than a handing over of power to another body. It is important to note, however, that promise-making does require an optimism that natality is possible. Also, as La Caze (2014: 217) points out, promise-making relies 'on actual mutual confidence in the faithfulness and determination of others' to keep promises made. Nonetheless, I argue that this example shows there *is* a place for mutual promising in the political sphere whether at international, national or local level.

Prior to the event Harvey (2015: Online) commented:

If nations can meet and agree equitable goals on the climate, on economic development, on social and environmental issues, and do so in a spirit of cooperation, it will be a huge achievement. But, as the French President Francois Hollande told delegates in Paris in late May that might be hoping for a 'miracle'.

The outcome of COP21 Paris in which all participants agreed to be bound by targets to keep climate warming at 1.5C took many by surprise after so many

failed negotiations in the past. It was heartening that China and the USA ratified their agreement in September 2015, citing the importance of setting an example to encourage other nations and thus providing some cause for optimism. The UK became the one hundred and eleventh country to ratify the agreement in November 2016 (Neslen 2016). These promises are vulnerable to political change and also compliance with the agreements. However, as Arendt (1974 [1958]: 247) reminds us, it is the human potential for natality, for bringing new ways of knowing, being and acting in the world 'which brings hope and which ultimately can be "the miracle" which saves the world'.

6.4.5 Possibilities which the aspect of mutual promising presents in education

The aspect of mutual promising proposed by Arendt presents an opportunity for those involved in education, especially an education which emphasises the importance of the emergence of the new. Firstly, it emphasises the relationship between the aspect of forgiveness and the aspect of promising. Forgiveness is a dynamic process which involves a turning from the past and a commitment or promise towards the future. Mutual promising can make such turning specific and keep open the power/potentiality which speaking and acting creates by leaving a trace which can create a new, even enlarged space for action.

Secondly, there is an ethical responsibility to encourage such a turning - a turning which does not focus on what has been done (although this can inform the promises made) but which focuses on what needs to be done now and a commitment to adapt to what is necessary in the future to keep the commitment alive. This is a challenging demand - Arendt recognises that vengeance is a more common human response - but one which an understanding of the role of *teshuvah* in the public realm ethically demands of us. It is mutual promising which keeps the 'miracle of natality' open. Education is a place where exploring and carrying out such mutual promising is possible.

Finally, the aspect of mutual promising in Arendt's thought emphasises that power/potential for natality lies between and can be claimed by people. This is a sense of power which it can be argued has been lost from the public domain in modern times. Despite political freedom to act, a sense of alienation from the

political has developed, a sense of *potestas*⁴⁸ - that power lies with another/others and we are powerless to act and make a difference. Encouraging, in education, an understanding of power as *potentia* - a sense that one can act and generate power/potentiality - is important for an education which seeks to resolve the paradox of sustainability through enabling the possibility of emergence of new ways of knowing, being, acting in the world. I therefore explore this possibility in the next section.

6.5 Education, *potentia* and response-ability

Sterling (2010b:217) points out that an education which highlights environmental and social issues is asking students to develop an 'expanded and ethical sense of concern/engagement' with these issues. However, if this is asked of students they also need to be encouraged to explore and develop ways that they can *actively* respond to these demands. This active response is what Sterling terms 'response-ability' (217). This is challenging. In Western thinking power is often reified as something which stands outside of a person and moreover, something [mainly] held by others (Graeber 2001). This can lead to a lack of action, a lack of 'response-ability' since one feels one does not have the power to act. Engaging with Arendt's challenging notion of power as potentiality, and the role of forgiveness and mutual promising in keeping this potentiality open, can inform and promote 'response-ability'. It repositions individuals, including children and students of all ages as actors who can generate the power/potential. Such potentiality can exist even in the bleakest of environments as Frankl's experience in the concentration camps of the Second World War demonstrates.

⁴⁸ As I introduced in chapter five, the concepts of *potestas* and *potentia* are developed by Spinoza. For further discussion of these terms see Koistinen and Biro (2002).

6.5.1 *Potentia* amongst 'the greyness'

The environmental activists Edwards and Timberlake (2012) highlight a sense of potentiality, originality and energy in slums and shanty towns which at first sight appear only as horrific. Edwards explored this idea in more detail at the Plymouth University launch of his travelling photographic Installation *Hard Rain: Whole Earth?* Edwards (2012) described the experience of standing in Cité du Soleil, a shanty town in Port-au-Prince, Haiti. He was feeling overwhelmed by the misery of the place when suddenly into his view a procession of young girls, the yellow and white of their school uniforms contrasting with the grim background, appeared in his sight like a flight of butterflies. He quickly took some photos (see Figure 10) but then, in a moment, they were gone. He explained how it was like experiencing a fleeting moment of potentiality amidst the greyness. It emphasised for him the importance of seeing others, not as competitors for scarce resources, but as fellow actors with potentiality with whom one can act and generate the power/potential to find ways forward for humanity and the wider natural world.



Figure 10: *Children on their way to school*
Cité du Soleil, Port-au-Prince, Haiti

Edwards and Timberlake (2012),
Copyright: Mark Edwards/Hard Rain Photo Library
(Reproduced with permission).

Braidotti (whose thinking I introduced in chapter two) also highlights the significance of *potentia* in her thinking. For Braidotti *potentia* arises through a shared *zoe*, the ‘dynamic self-organising force of life itself’⁴⁹ (2016:686): a ‘transversal force that cuts across and reconnects previously segregated species, categories and domains’.

Education can be a place to reflect on action and also to act, a place for the *dissensus* or interruption that forgiveness and mutual promising can bring, a place for the ethical *shuv* or turn that lies at the heart of the concept. Arendt accepts that irreversibility, unpredictability and unboundedness are inevitable features of natality, of the coming of the new when acting in ‘spaces of appearance’ with others unlike oneself. Arendt’s approach to the ethical issues which arise from ‘natality’ is not based on a set of normative ethical guidelines. Instead, Arendt’s approach is built on working through and acting on specific ethical issues with others unlike ourselves, in specific contexts. Arendt turns towards plurality as a source of ethics. It is an approach to ethics which is dynamic: the act of *shuv* or turning in her two-fold conception of forgiveness and mutual promising can be seen as a moment of ethical choice, a moment of undecidability placed on every actor in the world and one which demands a response, for as Smedes (1996:171) reminds us:

Forgiving does not erase the bitter past. A forgiven memory is not a deleted memory. Instead forgiving what we cannot forget creates a new way to remember. We change the memory of our past into a hope for our future.

As this chapter has explored, this ethical turn does not happen in isolation from others. It occurs in, and depends upon, plurality, in relationships between people, and potentially also between people and the wider natural world. The issue of relationship is critical both for encouraging the possibility of ‘spaces of appearance’ in education and for the possibility of responding ethically to challenges which the irreversibility, unpredictability and unboundedness of new

⁴⁹ Here Braidotti echoes Bergson’s concept of *élan vital* as ‘the explosive force - due to an unstable balance of tendencies - which life bears within itself’ (Bergson 1912:103). Braidotti accesses the thinking of Bergson through the thinking of Deleuze.

ways of being, knowing and acting bring into the world. The issue of the relationship between humans and between humans and the wider natural world is explored in the next chapter.

6.6 Summary of chapter

In this chapter I have argued that Arendt's two-fold concept of forgiveness and mutual promising provides a way to approach the issue of ethics and emergence. Drawing on Topolski (2011) I have argued that Arendt builds on a dynamic sense of forgiveness and mutual promising inherent in the Hebraic idea of *teshuvah*, albeit Arendt uses this idea in the political sphere. *Teshuvah* emphasises *shuv* – the act of turning. Forgiveness allows a turning from and a release from the past and trespasses committed there and mutual promising opens the possibility of hope for, and novelty in, the future. Following Arendt's line of argument, I have examined how forgiveness rather than vengeance is unexpected and enables us to demonstrate our freedom to choose how to act. I have explored how the power to make mutual promises on specific issues in specific contexts arises horizontally between people acting in 'spaces of appearance' with others unlike themselves. I have argued how mutual promising has the potential to keep open the power generated in 'spaces of appearance' and to develop the possibility of *potentia* – that one has the power to act. Through historical and contemporary examples, I have highlighted how Arendt's dynamic understanding of ethics resonates in the public realm, including in issues of relating to extreme evil and its causes. I have also considered how the ideas developed in this chapter can inform education and encourage the possibility of new ways of knowing, being and acting in the world.

I have concluded that Arendt, in her two-fold conception of forgiveness and mutual promising, does not draw on a set of normative ethical guidelines. Instead she looks towards plurality as a source of ethics, towards the act of *shuv*, of turning from past wrongdoings towards hope for the future through engaging in dynamic relationship with others unlike ourselves. The act of *shuv* can be seen as a moment of ethical choice, placed on every actor in the world.

Chapter Seven: Intersubjective first-person/first-being encounters and the possibility of the emergence of new ways of knowing, being and acting in the world - a contribution to sustainability and education

7.1 Introduction

In chapter six I explored Arendt's (1974 [1958]) two-fold conception of forgiveness and mutual promising. Arendt understands ethics not as a theory but as an event because 'it responds to specific difficulties in a particular context and is based on actual mutual confidence in the faithfulness and determination of others' (La Caze 2014:217).

The importance of an event was also at the heart of chapter five in which I discussed and developed ideas around Biesta's (2010, 2013) 'pedagogy of interruption'. This theory of education proposes that 'spaces of appearance' arise as fleeting moments, interrupting existing dominant understandings of the human subject as a rational autonomous being. Such moments, understood as existential events, do not predetermine what a subject is: instead they leave the issue of *who emerges* as a human subject radically open.

The philosophical terms 'subject' and 'subjectivity' refer to a sense of self, a sense of *who* one is, and how one acts, in the world. In the Western philosophical tradition, the terms imply a capacity to have higher-order thoughts and to reflect on selfhood. The word 'subject', as Biesta reminds us (2006, 2013), also has the dual sense of both one who acts and one who is acted upon (subject to). Intersubjectivity explores what happens or arises in the event of acting and being acted upon as a subject

This chapter focuses on these fleeting moments or events which interrupt the dominant (European) Enlightenment understanding of human subjectivity and first of all develops an argument that such events can be understood as *intersubjective first-person encounters between people under conditions of*

*plurality*⁵⁰. I then broaden the discussion of subjectivity and intersubjectivity between people to include the possibility of *intersubjective encounters with the wider natural world* and what this can mean in/for education and sustainability. Finally, I conclude that an education which explores, allows and values intersubjective encounters with other humans and the wider natural world, and which encourages the possibility of emergence of new and unexpected ways to be a human subject, can contribute to education which is both a sustainable and a democratic process.

Sterling (2010:214) recalls reading a curious notice on the bus he uses. It reads 'No eating or drinking on the bus'. He points out, however, that we travel 'in the bus'. He comments how:

The difference in perspective that such experiences invoke is this: we are not on the Earth, we are in the Earth, we are inextricably actors in Earth's systems and flows, constantly affecting and being affected by everything natural and human, in dynamic relation (Metzner 1995). We are unavoidably participative beings. And yet, deeply embedded in the Western psyche, although we know participative reality to be true, there is a powerful operative myth of separateness.

This chapter aims to provide ways to challenge the myth of separateness and consider the possibility of emergence of new ways of being a human subject not restricted by notions of rational autonomy or humanist separation between the self and the wider natural world.

In order to develop an argument around intersubjective encounters it is first necessary to explore the development of the term 'intersubjectivity'. It is important to discuss ways that notions of intersubjectivity have been understood and developed in order to demonstrate how a focus on intersubjective encounters has the possibility of leaving open the issue of *who* emerges as a human subject, why this is significant and how this can contribute to education and sustainability.

⁵⁰ I explain later in this chapter what I mean by the term 'under conditions of plurality'.

7.2 Intersubjectivity and first-person encounters with others in plurality: contributions to education and sustainability

Intersubjectivity is concerned with how one experiences other subjects who think and act in the world and what this means for the constitution of one's own subjectivity. In this section I explore the development of ideas of subjectivity and problems with such understandings.

7.2.1 The development of ideas of intersubjectivity

Parekh (2007:70) suggests Husserl as an interesting starting point for theorising the notion of intersubjectivity and how this developed in different ways in nineteenth and twentieth century thinking. She comments that:

For Husserl, since the basis of phenomenology was the self-constitution of the ego, the experience of other egos became important in order to avoid solipsism. His concern was with what it meant to live in a world that was shared with others and thus had shared objects, language, meaning etc.

However, for Husserl, although the world has an objective existence outside of me, a world in common, which is shared intersubjectively, it does not constitute who I am. The self or ego is still constituted of an essence which one can reveal to the world.

In the twentieth century some theorists began to conceptualise intersubjectivity in a different way. Rather than the subject preceding the intersubjective, various understandings of intersubjectivity were developed in which the intersubjective precedes and informs the subjective. Subjectivity is seen as a function of intersubjectivity. Biesta (1994, 2006) draws attention to three thinkers who explore this possibility: Mead, Dewey and Habermas. Biesta comments that for Mead the whole of society is prior to the part an individual plays in it. Dewey and Habermas, however, emphasise the role that communication plays in building a common world. For Dewey, actively responding to the signals from another builds a world in common and this informs *who* a person is. This is not, however, a mechanical process, but one that emerges through co-operation. Habermas (1984: 285-86) emphasises what he calls communicative action. Habermas contrasts communicative action with strategic action. In strategic

action the individual is aiming to get agreement for a predetermined outcome. In communicative action, however, agreement occurs whenever:

The actions of the agents involved are coordinated not through egocentric calculations of success but through the acts of reaching understanding. In communicative action participants are not primarily orientated to their own individual successes; they pursue their individual goals under the condition that they can harmonise their plans of action on the basis of common situation definitions.

Biesta (1994) points out that at first sight communicative action can appear to be merely a linguistic exchange but that further study of Habermas indicates how Habermas considers communicative action to be the birthplace of individual identity, stating for example 'identity formation takes place through the medium of linguistic action' (Habermas 1984:58 cited in Biesta 1994:310).

The intersubjective understanding of education proposed by Mead, Dewey and Habermas can contribute to the possibility of a form of education which is not about bringing the pre-rational child to a state of rational autonomy. Nor is pedagogical action considered to be a one-way process. Instead pedagogical action can be conceived of as a co-constructed, intersubjective process through which meaning and the ego are constructed. Meaning and subjectivity cannot be produced in a predetermined way since individuals will respond differently to shared ideas and communication.

Biesta (2006) does, however, identify a significant problem with such theories of intersubjectivity where the subject is understood to be capable of theorising about the nature of the subject. To use Foucault's phrase man/woman is both 'an object of knowledge and a subject that knows' (Foucault 1973:386 cited in Biesta 2006:38). This is a contradictory position, doomed to failure, since it starts with a theory of the human subject which does not take into account the theorising activity of the subject itself. As Biesta (2006:37) points out:

As long as we keep thinking about intersubjectivity as a new theory or a new truth about the human subject – which is implied in such popular notions as man as relational being, a historically and socially constructed being - we continue to rely at the level of theorising on the totalising gesture of a consciousness that claims to be able to overlook and know the field in which the subject emerges.

Drawing on the work of Foucault (1983, 1984, 1991), Biesta (2006) suggests that rather than simply giving up theorising about what it is to be a human subject, it is possible instead to reframe the question of intersubjectivity as questions concerning *who* comes into presence/appears as a human subject and moments where such coming into presence can happen.

7.2.2 Intersubjective first-person encounters and the coming into presence of who a person is.

Loidolt (2016), Keller (1986) and Braidotti provide useful insights for exploring the moment or event where *who* one is appears. Loidolt (2016) draws on the ideas of Arendt, identifying two key aspects to explore in relation to 'spaces of appearance' in which *who* a person is can emerge. *Who* a person is has to be *actualised in an event*. This event occurs in *plurality* - in and through the presence of others.

Loidolt emphasises the importance of Arendt's phenomenological roots as the starting point for understanding Arendt's notion of the emergence of *who* a person is actualised in an event in plurality: albeit, as I discussed in chapter six, Arendt overturns some of the thinking of her phenomenological predecessors such as Husserl and Heidegger. Whilst in Husserl's thinking the intersubjective experience leads to an understanding of others which emphasises what we have in common, Arendt's understanding of intersubjectivity, as I go on to discuss in this section, is based on the uniqueness of every subject. Whilst for Heidegger the authentic self is revealed more fully in separation from the world and its distractions, for Arendt it is through being with the other in plurality that the self emerges in an intersubjective event (Parekh 2007:70, Loidolt 2016:46).

For Arendt, approaching plurality from a phenomenological perspective is to approach it from 'within', from a first-person perspective. It is about a person going out into the world and experiencing its phenomena *as an event from this first-person perspective*. Such an event engages with others in their *uniqueness* rather than conceiving 'the multiplicity of humans "from the outside" in their quantity or in their qualities and properties from a third-person perspective' (Loidolt 2016:44). Plurality is not a static or substantial concept. Rather it is a plurality of '*who's*' - of unique beings, a plurality of first-person perspectives with the capacity, in an encounter/event, to communicate their uniqueness. Thus, for

Arendt, plurality is not merely to do with quantitative multiplicity of people who are 'just there' or ready to hand (*vorhanden*), 'nor a quantitative or qualitative differentiation within a multiplicity, like unique genetic codes, different socialization processes, or multiculturally understood 'diversity' (Loidolt 2016:44).

It is the emphasis on a first-person perspective that leads Arendt (1974[1958]:176) to distinguish between *otherness* (*alteritas*), which arises because 'we are unable to say what anything is without distinguishing it from something else'; *distinctness*, which is 'the expression of the variations in organic life' and *uniqueness*, which is the capacity to 'express this distinctness and distinguish [one]self...to communicate [one] self and not merely something'. As Loidolt (2016: 44) points out:

Whilst 'otherness' is an abstract universal property of every being (the scholastic *alteritas*) and 'distinctness' is an unconscious variation of life in living beings, 'uniqueness' implies living and self-aware beings who are able to express their stance. The latter is therefore a concept that involves an articulate first-person perspective, as well as other first-person perspectives that are receptive of the stance expressed.

The appearance of *who* a person is, then, needs to be actualised as an *encounter* or event in which a subject can express their uniqueness to others who are open to its expression.

The emergence of *who* one is in an event also has implications for how one approaches the issue of human subjectivity. As Loidolt (2016:49) explains:

The mode in which the 'who' shows itself - and at the same time eludes the fixation of the 'what' - is that of acting and speaking. It is intersubjective interaction. The 'who' that appears in this interaction is not a representative, not a reflection of an already fully-fledged substantial 'inner self'. As an appearance it 'expresses nothing but itself, that is, it exhibits or displays' (Arendt 1977:30). Thus, *who* one is only develops in actualisation with others. The self is given in the face of others, which however, does not mean that it is originally individuated by others.

Thus, for Arendt, working through the lens of *who* appears, subjectivity is not approached from a third-person perspective, theorising about the subjective before the intersubjective, or *vice versa*. Rather, her approach, exploring *who* appears, opens up the possibility of a 'space of appearance' where I can

'appear to others as others appear to me' (Arendt 1974 [1958]:198-9). It is an approach *in which subjectivity enacts itself in the world*, creating:

an agonistic disruption of the ordinary sequence of things that makes way for novelty and distinction, a site of resistance of the irresistible, a challenge to the normalising rules that seek to constitute, govern and control various behaviours (Honig 1995:146).

Who a subject is is immanent. It emerges through encounters in the web of relations in the world. It allows the possibility of an emergence of the self which exceeds existing ways of being in the world and thus creates a 'surplus'. There is something more than was in the world before. This surplus is both inserted into the existing world and rearranges that world. As I discussed in chapter five, Rancière calls such an insertion the staging of *dissensus*. For Rancière (2010:69) *dissensus* is:

Not a conflict of interests, opinion, or value; it is a division inserted in 'common sense'; a dispute over what is given and about the frame within which we see something as given.

This *dissensus* created by the immanent subject/self is an assertion of radical democracy, since it allows for unforeseeable reconfigurations of the way the world is, and valid ways to be in it.

Keller (1986:18) explores the notion of such an immanent unique subject from a feminist perspective. She argues that immanence has been conflated in feminist writing with the 'solubility' of the self, a self dissolved in the presence of the other, and thus seen as something to be resisted. She argues, however, that:

Immanence is the way relations are part of who I am. Stagnation results from failing to 'do a new thing' with and within the field of relations.

An immanent subject thus understood evolves in an encounter, 'never outgrowing its open malleable ego boundaries' (Keller 1986: 134).

Keller (1986:9) argues that an immanent open idea of subjectivity can and should resist 'the predetermination of the subject as autonomous'. She argues that a focus on autonomy paradoxically can be a barrier to freely choosing what it is to be a human subject. Autonomy's sense of separation even separates (hu)man from himself, a situation she calls the *separative* self. Keller (8) comments:

The separative self is identifiable historically, but neither essentially nor necessarily with males, and the masculine. Its sense of itself as separate, as over against the world, the Other, and even its own body, endows it with its identity. It is *this* not *that*.

hooks (2004:19) also highlights this loss of choice of what it is to be a human subject. She describes how, growing up, not only she but also her brothers understood that 'we could not be and act the way we wanted, doing what we felt like'. She argues that patriarchy, with its emphasis on the dominant autonomous self, is damaging for men as well as women and hinders the emergence of new ways of knowing, being and acting in the world.

Bergson challenges an understanding of a stable subject since 'it presumes the separation or discontinuity of the subject from the range [of possibilities] available' (Grosz 2011: 63). Braidotti (2011a, 2011b, 2013b) develops a line of thinking which can be linked back to Bergson through Deleuze. She argues for what she calls 'a process of becoming nomad' (Braidotti 2011b:5). The figuration of 'nomad' emphasises immanence and 'renders an image of the subject in terms of a non-unitary and multi-layered vision, as a dynamic and changing entity' (5). The nomadic subject challenges and destabilises static conceptions of the subject, particularly understandings of the subject dominant in Western thinking (i.e. white European able-bodied human males). It challenges the position of such static conceptions 'in relation to, and in interaction with, marginalized others'(5). For Braidotti, the point of nomadic theory is to:

Identify lines of flight, that is to say, a creative alternative space of becoming that would fall not between the mobile/immobile, the resident/the foreigner distinction but within all these categories. The point is neither to dismiss or glorify the status of the marginal, alien others, but to find a more accurate, complex location for the very terms of their specification and our political interaction (7).

Through her nomadic theory Braidotti provides a posthuman perspective on immanent subjectivity in that in her thinking 'an open malleable ego boundary' (Keller 1986: 134) includes a malleable boundary not only between humans but also between the human and the other-than-human, a possible intersubjectivity which I examine in more detail later in this chapter.

The ideas of Loidolt, Keller, hooks and Braidotti, as well as other feminist perspectives (for example see Plumwood 1993, Grosz 2011) can also help us to begin to imagine (but not define) and play with an abundance of different, unforeseen ways of being a human subject. Engaging with these possibilities opens 'new creative spaces' (Braidotti 2011b:7) of subjectivity that valorise, amongst other possibilities, both rationality and emotion, mind and body, thought and matter, separation and connection, the human and the wider natural world.

7.2.3: Ethics in first-person intersubjective encounters with others

In chapter six and at the start of this chapter I argued that Arendt understands ethics not as a theory but as an event. For Arendt, mutual promising is an event rather than a theory because it 'responds to specific difficulties in a particular context and is based on actual mutual confidence in the faithfulness and determination of others' (La Caze 2014:217). I would argue that first-person intersubjective encounters thus have the potential to be a place to enact a horizontal ethic between people. It can be hard to have confidence in others, but as Arendt emphasises, such action is an expression of freedom: a freedom to act in unexpected ways (rather than engage in vengeance) and bring the new, essential for sustainability, into the world.

In chapter six I also explored how the aspect of mutual promising in Arendt's thought emphasises that the power/potential for natality lies *between*, and can be *generated by*, people speaking and acting together. Mutual promising keeps open and alive the power/potentiality which emerges in spaces of appearance, spaces which can be accessed through first-person intersubjective encounters. This contributes to developing a sense of *potentia* - that one can act and make a difference in the world, a potential to challenge damaging approaches to society and the wider environment and to suggest new, more sustainable ways to be and act in the world.

I acknowledge that my exploration of the appearance of a unique subject through first-person encounters with unique others and the possibility of ethics in such encounters is undoubtedly theoretical. However, it does respond to the concern of Biesta (2006) and Foucault (1984) regarding the contradiction

inherent in theories of subjectivity which position the subject as both the object of study and the one who knows. It does *not* attempt to create a theory of subjectivity or intersubjectivity or define the subject in a totalising gesture which makes claims about what constitutes human subjectivity. Instead my exploration focuses on *who* emerges as a unique subject and the role of encounters or events where such subjectivities can emerge.

Encouraging a space in which there is the possibility that a unique self can emerge is very challenging. The temptation is to fill the space, to define the subject. In the next section I explore some implications and challenges for education of engaging with and encouraging intersubjective first-person encounters with unique others who are also open to expressing their stance.

7.2.4. Impact on education and sustainability of first-person encounters with others under conditions of plurality

Education which wishes to keep what it is to be a human subject radically open needs to include the issue of subjectivity in policy-making and teacher education. Teachers and students also need to be both empowered and encouraged to facilitate (whilst recognising they can never *produce*) 'first-person' intersubjective encounters. Such encounters can open spaces in which teachers and students can express their uniqueness to others who are open to this expression and where one is also open and responsive to the expression of others: spaces where it is possible to insert oneself into the web of relations in the world and, to cite Arendt (1974 [1958]:183-184):

start a new process which eventually emerges as the unique life story of the newcomer, affecting uniquely the life stories of all those with whom he comes into contact.

In chapter five I introduced ways to encourage the opening of 'spaces of appearance', fleeting moments where *who* one is as a human subject can emerge. This chapter, which focuses on the fleeting moment of emergence itself, has argued that such moments take place through first-person encounters and that the self which emerges is formed *intersubjectively* in that event. The ideas I explored in chapter five can help teachers and students as they encourage such encounters. Arendt's idea of 'visiting', an existential process, enables one '*not* to see through the eyes of someone else but to see with your

own eyes from a position that is not your own' (Biesta 2013:116). This allows one to engage with others without erasing their uniqueness, since 'visiting' does not reduce the other to the idea one holds of them in order to *presume* one can see through their eyes. Instead it recognizes and opens up a space between the self and the other and then engages with the unique other in order to bridge that space, allowing new understandings and subjectivities to emerge.

Mouffe's conception of agonistic pluralism (which allows one to approach the other not as an enemy but as an adversary with whom one can argue without trying to erase them and their different points of view) also has an important role in facilitating intersubjective first-person encounters in education. Teachers can encourage the recognition of the other as an adversary not an enemy in encounters and encourage the opening of a space when the appearance of unique selves is possible.

Rancière's conception of *dissensus*, as I have discussed in the previous section, engages with the possibility that the unique subjects who appear can then insert themselves into the existing arrangement of the world and thus also rearrange the existing world. Teachers can encourage the possibility of such insertion, rather than closing it down. This can be challenging in education dominated by specific expectations and outcomes. However, education which does not take this issue of allowing the appearance of unique subjects and insertion of the new seriously runs the risk of becoming 'uneducational' if one accepts a position in which emergence and subjectivity are an important aspect of education. In Rancière's specific exploration of education where he engaged with the teaching method of Jacotot, the teacher's role is to operate under a presumption of equality of intelligence, and to challenge and verify the use of that intelligence, by asking questions such as: 'What do you see?' 'What do you think about it?' 'What do you make of it'⁵¹? When encouraging intersubjective first-person encounters, the teacher can also extend the approach to include a presumption of equality of feeling as well as intelligence since both of these aspects are involved in intersubjective encounters, e.g. 'How do you feel about it? How do you respond to that?'

⁵¹ This is different from a Socratic approach in which the teacher asks such questions but already knows/has decided what the answers are.

Masschelein and Simons (2013) emphasise education understood as *skholé*. Within this conception, their emphasis on the importance of publicity – of engaging in education as a public event - enables opportunities to encounter others. Their emphasis on the suspension of ‘usual’ understandings of the world and the demands and closures it places on students opens the possibility of challenging a limiting focus on what a person is - a child in year six, a refugee, a child with a particular background. Received ideas and limitations can be challenged, made profane, attentiveness to this ‘other’ on this occasion can open up the space between the self and the other, allowing new subjectivities to emerge through this interaction. The *skholé* can be a place which finds the balance Arendt (2006 [1961]:193) calls for between the need not to expel children from our world and leave them to their own devices but also the need to avoid education which ‘strikes from their [children’s/students’] hands their chances of undertaking something new, something unforeseen by us’.

An important issue for sustainability and education which seeks to explore sustainable ways to live in and share the world, still needs to be considered, however. This concerns how humans exist as part of the wider natural world, and whether intersubjective encounters with(in) the wider natural world are possible or desirable. I explore this in the next section.

7.3 Intersubjective encounters with the wider natural world: Contributions to education and sustainability

7.3.1 Subjectivity and intersubjective encounters in the wider natural world

Examining whether an intersubjective understanding of the web of relations between humans and the wider natural world is possible and desirable is a departure from the work of Arendt (1974 [1958]:198-9) who, writing within a modernist framework, limits her attention to the web of *human* relations. This reflected her belief that humans are ‘*unlike* other living creatures or inanimate beings/objects who can only “exist”’ - a position that this section challenges. It is also a departure from Biesta who focuses in his writing on human subjectivity. As Pedersen (2010:243), arguing from a posthuman position, points out:

When Biesta (1998), drawing largely on Foucault's analysis of the subversion of the modern conception of 'man', states that 'pedagogy has to do without humanism' (1), he argues for an open-ended approach to human subjectivity without interrogating the position of 'the human' in education as such. In this sense, the category of 'the human' is still ascribed authority, with inquiries into the co-constitution of human-animal subjectivities and alterities closed off, and without conceptual space for dealing with the myriad ways in which nonhuman animal presences are always already part of 'our' human selves.

Pedersen (2010:243) highlights how questioning this authority of 'the human' enables an expansion from Biesta's position, in which 'we can only come into presence in a world populated by other human beings who are not like us' (Biesta, 2006:32), to an approach to 'coming into presence' which allows for the possibility of a much broader understanding of what constitutes 'others unlike us'. Whilst Pedersen, a posthuman thinker writing about animal studies, speaks of nonhuman animal subjectivity I undertake a broader exploration of the wider natural world.

The possibility of intersubjective encounters builds on a premise of subjectivity which therefore makes an exploration of the possibility of subjectivity in the wider natural world necessary here. Following the line of enquiry adopted earlier in this chapter the emphasis in this section is not on creating a totalising theory of subjectivity or of intersubjectivity between the human and wider natural world. Rather, it emphasises a first-being approach in an *encounter*, and *who* emerges in such an encounter. I use the term 'first-being' to replace the grammatical term 'first-person' which prioritises the human in an encounter. The issues raised in this section also require a rethinking of education understood from the perspective of *geisteswissenschaftliche Pädagogik* (which Waldow [2008:73] translates approximately as 'education as a humanities subject'), if education is also to be a place to engage with others beyond the human realm.

As I discussed at the start of this chapter 'subjectivity' refers to a sense of self, a sense of who one is, and how one acts, in the world, a capacity to have higher order thoughts and to reflect on selfhood. The issue of whether animals have such a sense of consciousness is a current topic of debate in academic literature (for example see Gardenfors 2008, de Waal 2013, 2014; Johnston 2013, Bavidge & Ground 2009, Ground 2013). At one end of the scale

Gardenfors (2008:2) identifies (but does not endorse) an approach to non-human animals where animals are assumed:

to have absolutely no rationality and no cognitive capacities at all...
However, they can slowly adapt, via the mechanisms of natural selection, over a number of generations.

At the other end of the scale Lyvers (1999) argues for the possibility of animal subjectivity. He refutes arguments such as that of Carruthers (1998) who proposes that higher order thoughts and consciousness are not a feature of animals since animals cannot, for example, contemplate a colour in the abstract, but only experience it physically. To support this refutation Lyvers (1998:5) states:

The attribution of subjective states to non-human animals is sometimes derided as "anthropomorphism" but simple acknowledgment of animal subjectivity is not equivalent to assuming that an animal's conscious experience must be similar in all respects to one's own.

Lyvers (1998) points to evidence that many animals have a cerebral cortex where thinking and feeling take place, and various experiments on and observations about animals which demonstrate that animals are sentient beings capable of abstract thought. He points out that, whilst it is not possible to know or experience how other parts of nature think or feel, assuming that only humans are capable of conscious thought is a stance which wishes to place humans at the centre of the universe, above other elements of the natural world. He argues that this is akin to the old notion that the earth was at the centre of the universe, an idea which seems absurd today. Massumi (2014:3) places humans on the animal spectrum. He argues that, rather than denying this 'animality', engaging with this proposition can help inform human subjectivity, highlight our separation from the rest of the animal spectrum, our vanity regarding our assumed species identity, propriety of language, thought and creativity. Massumi recognises that:

Expressing the singular belonging of the human to the animal continuum has political implications, as do all questions of belonging.

Massumi (2014:2) realises that proposing such an approach opens him to the accusation of anthropomorphism, but comments he would willingly risk such an accusation:

In the interests of following the trail of the qualitative and subjective in animal life, and of creativity in nature, outside the halls of science, in the meanders of philosophy, with the goal of envisioning a different politics, one that is not a human politics of the animal but an integrally animal politics, freed from the traditional paradigms of the nasty state of nature and the accompanying presupposition about instinct permeating so many facets of modern thought.

Derrida (2002, 2008) identifies that the categorisation of humans and animals creates a false binary. He argues that humans have given themselves the authority to name all others under a single word – ‘animal’. This human-animal distinction groups all animals together as though they share a single way of being in and experiencing the world; only react to external stimulus, and have no access to their own subjectivity. Moreover, human subjectivity is closely tied to distinguishing ourselves from this ‘other’. As Derrida (2008:23) highlights:

The very history of who we think we are as humans is tied up in distinguishing ourselves from this other we have named and subjected - subjected for the sake of claiming subjectivity as our exclusive property.

Weil (2008) draws attention to the way that Derrida then highlights how although the human-animal binary and the subjection of animals which arises from it has not changed, what has changed:

is the unprecedented proportions of this subjection of the animal... Neither can one seriously deny the disavowal that this involves (Derrida 2008:25).

This is not a subjection or disavowal that Derrida is prepared to participate in for the ‘putative well-being of man’ (Derrida 2008:25). Nor is he, as Weil comments:

afraid to use the words that others may have shied away from - holocaust, genocide - to describe in detail the kinds of violence done to animals through industrial farming or biological experimentation and manipulation (Weil 2008:2).

Klein (2015, with Lewis 2015) foregrounds the link between capitalism arising from the industrial revolution of the 1800s and human categorisation of the ‘non-human world’ as somehow lesser, subjected, a resource to be exploited for human use. She argues that this derives from a sense of separation from and also a domination over the wider natural world (a separation which Plumwood (2001) calls hyperseparation) founded in an approach to the world heralded by mechanistic philosophers such as Newton in the seventeenth century. In earlier

thinking humans had a place amongst the natural order. For mechanistic philosophers such as Newton, Nature was understood as a mechanical or clockwork process and humans increasingly became understood as masters of this mechanism. In the period between the development of such a mechanical world view and the European Industrial Revolution humans' sense of domination was held in check to some extent because humans still needed to bend to the vagaries and power of nature: for example, needing the wind to power ships. The European Industrial Revolution, however, enabled humans to exploit the wider natural world seemingly unchecked and lay the foundations for capitalism.

The painter J M W Turner lived through and recorded this period of history in his painting. His work documents the 'taming' of the sublime - the awe inspiring dangerous-yet-beautiful power of nature - by the hand of Man (Beavan 2016). Figure eleven shows Turner's *Bell Rock Lighthouse* (1819) which stands off the west coast of Scotland and still operates today. This painting was commissioned by the engineer Robert Stevenson for his account of the design and construction of the lighthouse. Prior to its construction shipwrecks were common at Bell Rock, and ships and their scheduling were dependant on the weather. The lighthouse was (and still is) a feat of engineering, able to withstand the power of seas which in stormy weather made it hard to navigate around the rocks which are completely covered at high tide. In his painting Turner depicts ships sailing safely by the reef despite the raging seas - nature tamed and put to the service of man. Figure twelve shows a Great Western train crossing the Thames on a bridge constructed by the engineer Brunel - trade and people unstopped by the powerful storm.



Figure 11: *Bell Rock Lighthouse*

[Medium: Watercolour, gouache and scraping out on paper] (1819),
Joseph Mallord William Turner,
The National Gallery of Scotland: Edinburgh.



Figure 12: *Rain, Steam and Speed -The Great Western Railway*

[Medium: Oil on canvas] (1844), Joseph Mallord William Turner,
The National Gallery: London.

Klein (2015) highlights how this meeting of an ideology and a technology enabled capitalism to flourish. However, recent events such as the extreme pollution in China and the developing understanding of climate change and the impacts that this is having, highlight that humans are not in fact in charge of nature. This realisation is contributing to debates over limits to capitalism. Klein (2015) notes that such debates are not confined to the industrial world/Global North, citing the increasing protests against capitalism in the Global South.

Having explored the issue of animal subjectivity it is also important to consider other aspects of the wider natural world in order to recognise that animals, humans included, make up only part of the wider natural world. When we start exploring the issue of subjectivity beyond the human this leads to questions about the possibility of subjectivity within these many others. At first sight this perhaps seems more challenging, raising the question of whether a plant or rock is capable of an inner life or a reciprocal relationship. A suitable starting point for such a discussion is to recall Lyvers' (1998:5) point that to assert the possibility of subjectivity beyond the human sphere does not mean that this subjectivity has to be like our own experience of it. Nor is it possible to 'prove' such an assertion. I suggest that engaging with the possibility of a reciprocal relationship beyond human and/or animal life is connected to one's world view. Whilst even suggesting such a possibility to some seems tremendously problematic others either intuitively or through argument find the possibility of such reciprocity a part of life. Walsh, Karsh, and Ansell (1994:1), an interdisciplinary team consisting of a world studies academic, a philosophical theology academic and a forester, consider this issue. They commence their exploration by stating:

Rationalism supposes that nature is an It. The authors - using the tree as an ikon - see all creation as a Thou awaiting subject-to-subject relatedness with humankind.

Walsh *et al.* draw on Borgmann's (1992) text *Crossing the post-modern divide*, contrasting Borgmann's own version of postmodern realism with the epistemological despair of postmodernity. Borgmann (1992:117) highlights how:

postmodern theorists have discredited ethnocentrism and logocentrism so zealously that they have failed to see their own anthropocentrism. Why reject *a priori* the very possibility that things may speak to us in their own right?

Walsh *et al.* (1994:1) comment that:

What Borgmann intends by 'postmodern realism' is not the naive and aggressive realism of modernity, but rather, an attending to what he terms 'the eloquence of reality'. Aggressive realism has silenced creation: 'Rivers are muted when they are dammed; prairies are silenced when they are stripped for coal; mountains become torpid when they are logged' [Borgmann 1992:118-119]. Nor has the postmodern concern for hearing the voice of the other been extended to the nonhuman other. Yet without such a hearing, there can be no response to the other's cry and no learning from the other's wisdom.

Walsh *et al.* (1994:3) develop their discussion of the possibility of plant subjectivity and reciprocity through an exploration of the tree in theology, literature and science. They explore Buber's encounter with a tree which Buber (1970 [1923]:7) describes as an I-thou reciprocal relationship rather than an I-it relationship in which trees are interchangeable and there for human use. Walsh *et al.* comment that when *I and Thou* was first published those raised within an Enlightenment rational autonomous worldview were not open to such ideas. They go on to comment:

Now, however, the worldview that presupposed an objectified nature has run its disastrous course and we are open to a different way of relating, a different way of life, beyond the subject/object dualism, beyond the I-It relationship... Recognizing the dead end of an anthropology of the autonomous and imperial ego and convinced that in the context of the present ecological brokenness we must strive anew for contact, for reciprocity - and that our striving must aim at what Buber called 'tenderness' (Buber 1970:79) - we find ourselves revisiting Buber's I-Thou relationship with trees. We want to *listen* to Buber again. Even more, we want to learn to *listen* to the trees.

Walsh *et al.* (1994) go on to state that, having struck trees 'deaf and dumb' for so long by minds socially constructed with a mechanistic world view we have lost the ability to listen and engage in different ways of understanding the wider natural world as responsive and reciprocal. They argue that it is possible to recover these abilities. They draw on examples from the biologist and forestry

expert J. L. Shigo's idea of attentiveness; environmentalist John Muir's idea of listening informed by both botanical knowledge and empathy and the geneticist Barbara McClintock's identification of genetic transposition⁵² which allows an entity to be responsive to its environment⁵³. When McClintock first published her results in the 1940s they were not believed but later became better understood. This led in 1983 to her being awarded the 'Nobel Prize in Physiology or Medicine'. Walsh *et al.* comment that McClintock's approach to her scientific work required an attitude of involvement and attentiveness to corn plants, a kindred subjectivity which we normally only associate with relationships with other humans.

As the above examples show, scientists and philosophers are exploring different ways to conceptualise the intersubjective boundaries between organisms, including the human organism. For example, in November 2015 The Egenis Centre for the Study of Life Sciences, University of Exeter organised a two day conference, *Symbiotic*⁵⁴ *Processes* as part of the ERC funded project, *A Process Ontology for Contemporary Biology* led by Professor John Dupré to bring together philosophers, philosophers of science, biologists and life scientists. Egenis (2015:1) draws our attention to the way that:

The near omnipresence of symbiosis has been one of the main motivations for the project. The dependence of most life cycles on profound inter-connections with other symbiotic life cycles has been recognised by many philosophers and biologists as problematizing standard assumptions about the nature and boundaries of the organism.

Klein (2015, with Lewis 2015) and Kuletz (1998) suggest looking beyond Western frameworks to explore other ways of engaging in first-being intersubjective encounters with the wider natural world. Such a suggestion is open to accusations of 'cherry-picking' from other cultures ideas which support a particular cause without fully acknowledging complexities and challenges raised by other aspects of a particular culture or society. It can also be accused

⁵² The ability of genes to change position on chromosomes, a process in which a transposable element is removed from one site and inserted into a second site in the DNA (MedicineNet.com 2016).

⁵³ Holdrege (2005) provides examples of how a tree is responsive to its environment, with each seed developing into a unique tree. He argues that unquestioning reliance on theories of competition and survival of the fittest to understand the wider natural world is insufficient and invites an opening up of other ways of understanding.

⁵⁴ Symbiosis describes close interactions between two or more different species which may or may not be beneficial to each organism.

of romanticising past times or, as Bonnett (2002) and Stables and Scott (2001) warn, of suggesting that it is possible to 'jump' into new frames of mind without acknowledging the continuing influence of one's own. However, it is possible to counter such accusations. Firstly, it would seem to be a very impoverished way to live if one were limited to engaging only with ideas from one's own tradition. Secondly, it is questionable whether such an approach is even possible. Over time traditions have either drawn from one another or perhaps identified ideas which are pertinent to many different cultures. For example, Heidegger's ideas can be compared with/discussed alongside Zen Buddhism, and there is academic debate about how much Heidegger was directly influenced by Zen Buddhism (for example see Storey's [2012] discussion of this point). Such parallels and also points of departure can be recognised and explored through an inter-cultural lens, emphasising an interest in what emerges through such a study rather than arguing for the 'correctness' of a particular way. The examples I include here offer a way to approach the issue of intersubjectivity between humans and the wider natural world as experienced through a phenomenological first-being encounter, rather than trying to formulate a third-person, or grand narrative about animal subjectivity and intersubjectivity. They are included here as illustrations, not a blueprint, of the possible ways to be a human subject in the web of relations in the world and what can emerge in such encounters.

Kuletz (1998:227) argues that historically the Western Shoshones and Southern Paiutes, and currently the Elders of the Yukka mountain region in North America, have a socioecological ethos which:

is characterised by a perception of the world as animate...The human being is not separate from [the non-human world] but both separate and part of it at one and the same time. The world takes part in the embodied sensual perceiver and the perceiver in the existence of the world. That is, they are constitutive, they make each other. In this dynamic relationship both entities are continually in process, responding to one another; they are not static, unchanging and dualistically separated from one another.

Kuletz (1998) argues that rather than romanticise these indigenous groups as 'closer' to nature it is possible to understand their dynamic relationship with the wider natural world as intersubjective, accessed through first-being

intersubjective encounters with specific elements. The encounter is with this creature on this occasion. It is with this rock as a shelter for a plant, or next to a snake's nest, and the human sense of touch, taste or smell or sense of fear are an integral part of this experience. The oral tradition of these people also helps or helped promote this more direct experience with the natural world as it is not mediated through textual accounts. Sherrer and Murphy (Online:1) point out that indigenous peoples would not traditionally describe their approach to the wider natural world as an ecological one, or be aware of ecological arguments. Rather, their method of living is inherently ecological because, to them, everything in the natural world is interrelated and shares the same life. It is important to bear in mind that 'ecological' is a label being placed on their way of living by others from outside it. Sherrer and Murphy (Online) also emphasise that whilst historically Native Americans have undertaken some activities which damaged their environment these are minor in comparison with the extensive damage caused by other cultures in the Global North.

The phenomenological philosopher Merleau-Ponty (1964) emphasises that the key to being in the world is the fact we are 'percipient perceptibles', capable of seeing and being seen, not just by other beings but also by the wider natural world. In *Eye and Mind* (1964 [1961]:167) Merleau-Ponty cites a painter who, when describing his experience in a forest, says:

In a forest I have felt many times over that it was not I who was looking at the forest. I felt on certain days that it was rather the trees that were looking at me.

Ladkin (2008:116) suggests that in this experience Merleau-Ponty is drawing our attention to the way we not only can see the trees, but also the way we know ourselves to be in relation to the tree - how small we are in comparison, how we rise up from the ground differently, how we respond to the wind blowing. We depend on the phenomenological world for our subjectivity. Kuletz (1998), however, whilst noting the trace of intersubjective encounters with nature in Merleau-Ponty's thinking, comments that in indigenous tribes the first-hand encounter with the wider natural world is much deeper than this. It is not just about trees and how they make one feel but about the encounter with *this* tree in its uniqueness; how this encounter stands in and relates to other parts of the wider natural world; the smell and tastes experienced: how it 'speaks to me'.

In their 2015 film Klein and Lewis' highlight the importance of the different ways that the First Nations and Métis people and those involved in extracting and transporting bitumen tar in Alberta, Canada engage with/in specific encounters with/in the wider natural world. Bitumen tar can be converted to oil using an energy and chemical-intensive process. Those involved in the extraction and pipe-building, and the Canadian government which has supported these activities, see the process as a necessity for the economic development of the country. Those opposing it say that the land is not 'ours' to exploit in this way, but a living entity which is suffering. This suffering is shared and felt through an intersubjective relationship by the land and all its inhabitants. One speaker in Klein's film comments how the Western/American approach to the land is encapsulated in the use of 'dirt' to refer to soil. Klein and Lewis do not romanticise the First Nations and Métis people as 'traditional'. They highlight for example their engagement with contemporary legal processes to challenge the destruction and suffering of the land, and their engagement with clean technologies such as solar panels. Sterritt (2015) reports on the installation of up to eighty solar panels by the Lubicon Lake First Nation people to heat and light a community health centre in Little Buffalo, Canada and to promote awareness of adoption of solar power. Melina Laboucan, the organiser of the project comments:

We can't just say no, we have to say yes to solutions. And renewable energies like solar are one way to go...We need something that will make our ancestors and elders proud. This is reflective of our own indigenous philosophies; having a reciprocal relationship with the earth - not taking more than you need and thinking and working for the future generations.

This is not an isolated project. Sterritt (2015) highlights that the Montana First Nation, south of Edmonton, has a similar but larger scale project - a 100-kilowatt solar panel system installed on the roof of its administration building. Saddle Lake Cree Nation has received funding for a solar project to power a water treatment plant.

Klein and Lewis (2015) point out that countries dominated by economic development are also realising the benefits of solar power, of working with the

grain, instead of attempting to dominate nature. They draw on the experiences of China. Ten years ago China produced very few or no solar panels. Now they are the leading producers of solar panels in the world. The intense poisonous smog which has affected many of China's cities for many days of the year has been a keen motivation behind this trend. Klein also reports that as well as fearing and experiencing medical issues related to the smog Chinese people comment on their sense of loss that they and their children cannot see and feel the sun: a loss of connection with the sun which cannot be explained rationally, but which, it can be argued, is felt intersubjectively.

So far in this section I have explored the possibility of intersubjective first-being encounters with(in) the wider natural world. This raises the question of what such a possibility can mean for the potential for that encounter to be an ethical encounter, in particular, informed by Arendt's notion of forgiveness and mutual promising. I explore this issue in the next part of this section.

7.3.2 The possibility of ethical first-hand intersubjective encounters with(in) the wider natural world

Arendt developed her conception of forgiveness and mutual promising as an ethical event in the human realm. It is challenging to see whether these ideas can also fruitfully be explored in relation to the possibility of intersubjective first-being encounters in the wider natural world. Questions arise around whether an animal, plant or a rock can forgive and make mutual promises, whether they have agency to act necessary for such reciprocity and how one can hear the voice of the other than human. Asserting that such ethical encounters are a possibility pushes at the boundaries of the way many (but not all) people understand the world, especially in the Global North. In this section I therefore explore how various thinkers have explored these issues of agency, reciprocity and hearing the voice of the other than human and the possibilities this opens for an immanent ethics in order to tease out implications for education.

Walsh *et al.* (1994) consider this issue of the agency which is necessary for reciprocity by arguing that if agency is limited to the possibility of rational decision-making then this can indeed exclude many parts of the natural world. However, if one takes a different starting point, one that recognises that humans

are 'multidimensional creatures and our intellectual capacities are but one aspect in the exercise of our will' (9), new ways of understanding agency can emerge. Drawing on forestry experience they cite the failure to control mechanistically output from commercial forests through, for example, seed management. They argue that attentiveness to trees indicates that trees actively respond to their environment in ways which exceed mechanistic explanations and require a subject-to-subject ethical engagement. Ground (2009, 2013) draws on Wittgenstein's conception of 'expressive enactment' to provide an approach to such subject-to-subject engagements. Expressive enactments take place as first to second person events and the 'mutual reciprocity' (29) inherent in expressive enactments, precedes and resists analysis from a third person perspective, especially constructs which rely on the use of a spoken language 'to act as a proof of other minds' (29). The important consideration is to be on the inside of such exchanges which exist in the *relationship between* those engaged in the enactment rather than to attempt to explore independent mental constructs in the 'mind' of either party.

The *Democracy's Non-Human and Non-Living "Others" International workshop, New York May 2nd, 2014*⁵⁵ provided a forum for researchers to discuss engaging in different projects to listen to the voice of the other than human and to draw these voices into democratic practices. The projects shared at the workshop provide an interesting starting point for ways to engage in expressive enactments which have the potential to be sites of ethical reciprocity. I highlight three projects here. Bastian (2014) discussed a project funded by the Arts and Humanities Research Council (AHRC) via the Connected Communities Project, UK. Bastian's project considered ways to hear the voice of dogs, bees, trees and water in the design process of participative research. This involved a range of embodied encounters as a starting point and required suspension of some 'habits of mind', a challenging of taken-for-granted epistemological framings, an attention to what emerged from such encounters and a willingness to engage in what could be perceived as 'foolishness'. An important consideration of Bastian's particular project was what emerges if you ask the question of how to hear the voice of the non-human other, rather than the formulation of

⁵⁵ The workshop was a collaboration between Plymouth University UK, the Authority Research Network and the Public Science Project at City University of New York.

generalised truth claims from what emerged. D'Ignazio (2014) explored a research activity which involved walking along the course of a creek which runs through her neighbourhood, following its twists and turns rather than seeing her neighbourhood from the perspective of roads and human habitation. She repeated the activity with a group of local school children and explored with them the new perspective that walking/meandering with the creek afforded and how this enabled a different encounter with the creek. Mukherjea and Bussolini (2014) explored listening to the voice of cats through a shared voluntary participation in yoga activities⁵⁶. The participation involved a physical closeness, a sharing of touch, a sense of the other's breathing, an attention to the present moment and an enhancement to the yoga activities through these experiences. This attention to the present moment opened up the possibility of a friendship with non-human others based on Bergson's notion of *duration* rather than language. Such friendship in duration was built on a sharing of a '*vie en commun*' (life in common) in both space and time rather than for any utilitarian purpose. In their discussion of a 'life in common' Mukherjea and Bussolini (2014) also refer to Merleau-Ponty's writing on the phenomenology of touch, internality and intertwining to explore the embodied enactment with the cats in the yoga session. Poulton (2014: 440) provides a useful discussion of these concepts commenting how the 'phenomenological touch' which Merleau-Ponty developed in his work *The Phenomenology of perception* (1962 [1954]) provides a counterpoint to the reduction of others to 'mere objects of my internal perceptual consciousness'. Poulton (2014:440) proposes that Merleau-Ponty's phenomenology of touch:

opens up an intertwining of inside and outside which is the overarching reality of the inter world in which we all exist and in which, through my body, I open myself up onto others in the same way they open themselves onto me.

This intertwining is taken a step further by Braidotti in her posthuman framing of the encounter of the self with the non-human 'other', a framing which I introduced in chapter two. As Pedersen (2010:243) comments, Braidotti's thinking provides:

⁵⁶ The researchers held yoga sessions in a space shared with the cats at their research centre and discovered that cats were active and frequent participants in these sessions. They then undertook historical research and found that yoga positions in some cultures drew on feline movements.

a conceptual space for dealing with the myriad ways in which nonhuman animal presences are always already part of 'our' human selves.

For Braidotti (2013b:60) a vitalist approach to living matter:

displaces the boundary between the portion of life - both organic and discursive – that has traditionally been reserved for *anthropos*, that is to say *bios*, and the wider scope of animal and nonhuman life also known as *zoe*.

Within this vitalist framing life is understood as a process of becoming driven by:

the explosive force - due to an unstable balance of tendencies - which life bears within itself (Bergson 1912:103).

In *The Ethics of becoming imperceptible* (2006) Braidotti explores ethics as a pushing the process of becoming which is at play in the 'vital force of Life' to the *nth* degree without destroying the integrity of that life force in a system that contains both the self and the human/nonhuman other. Taking care of one's own becoming in this system is intrinsically *intra-connected* with taking care of the becoming of others who are already intrinsically part of oneself. An orientation towards the world as *zoe* opens a new way to explore ethics, a way which is not based on spoken language. It introduces a way to explore ethics as a lived intraconnection which has the potential to enact Arendt's conception of *shuv* which lies at the centre of Arendt's conception of forgiveness and mutual promising - a turning towards new ways of knowing, being and acting in the world. Such a line of thinking is also central to Haraway's (2007) understanding in her discussion of 'companion species', a term she prefers to 'posthuman'. As I introduced in chapter two, for Haraway (2007:5) we are 'beings in encounter' where one is created in intra- and inter-action:

the partners do not precede the meeting; species of all kinds, living or not, are consequent on a subject-and-object-shaping dance of encounters (4).

These various approaches to encountering, hearing and entering into reciprocity with non-human others suggest that, whilst Arendt's conception of forgiveness and mutual promising as a source of immanent ethics cannot be transposed in a simplistic way there *is* a possibility that the conception can have meaning: a possibility which starts with an encounter - an embodied enactment. For, recalling Arendt's (1982:43-44) argument which I cited in chapter five:

The greater the reach - the larger the realm in which the enlightened individual is able to move from standpoint to standpoint - the more 'general' will be his thinking. This generality, however, is not the generality of the concept - for example, the concept 'house,' under which one can then subsume various kinds of individual buildings. It is, on the contrary, closely connected with the particulars, with the particular conditions of the standpoints one has to go through in order to arrive at one's own 'general standpoint'.

7.3.3: Implications for education and sustainability of intersubjective encounters with the wider natural world.

The possibility of education which engages with intersubjective encounters within the wider natural world and which deconstructs the authoritative position of *Anthropos* in such encounters has implications for education. It extends the scope of the humanities and of education as *geisteswissenschaftliche Pädagogik* (education as a humanities subject) into new framings of the humanities which challenge anthropological assumptions and limitations. Firstly, such posthumanist/posthuman education can be a place to play with these possibilities; to allow them to challenge autonomous rational anthro-centred understandings of subject and reflect what this could mean for one's own subjectivity and for the issue of ethics in an emerging world. Secondly, such post humanist/posthuman education can be a place to *engage in* the possibility of first-being encounters with the wider natural world. These embodied enactments can create a space for one's own subjectivity to emerge in ways which may offer new opportunities to be within the wider natural world, ways which are essential for sustainability and for education to fulfil its role as a sustainable emergent process.

In chapter two I discussed the introduction in 2011 of the UK Government White Paper *The Natural Choice: securing the value of nature* and the updating of the White paper in 2014 (DEFRA 2014). This document includes guidelines and encourages an opportunity for children to experience 'learning in the natural environment' (LINE). Such learning can involve a range of activities. It can be learning which would normally take place in the classroom taking place outdoors instead. It can be subject-centred learning which uses the outdoor environment as a resource for learning e.g. counting things seen, weighing items. It can be education linked to the outdoor environment which has a focus

on finding things out about that environment. Finally, it can be an opportunity which has the specific aim of engaging in an encounter with the wider natural world. I would argue that a first-being encounter with the wider natural world is possible in *all* of these activities. Drawing on my own encounters with the wider world, I can recall allowing my mind to drift from the voice of the teacher or other students and focusing instead on a daisy, on the insects busy around it, the taste of the soft grass stem picked from next to the daisy, the feel of the warm dry grass or sometimes the cold wet soil under my fingertips...I can recall pausing in the busy collection of outdoor objects set out in a worksheet to feel the sun warming the back of my neck, or to feel the beady gaze of a blackbird. Key to the possibility of engagement in and reflection on a first-being intersubjective encounter with the wider world is *the value* placed on such an encounter. The challenge for teachers is to keep possibilities of such encounters in play and to value them when they occur: to allow both space and time for such encounters to appear and for reflection on them; space to reflect that autonomy and domination over nature is not the only way to be in the world. All these allow the possibility of emergence of new ways to be a human subject that allow us to respond sustainably to the questions and challenges that face us today.

I acknowledge my recollections from my own education encounters describe benign encounters with the wider natural world and acknowledge that I was very fortunate to have these encounters. In order not to 'romanticise' the wider natural world it is also important to explore the possibility of harsher and also more 'neutral' encounters. Plumwood (1995) relates her experience of being attacked by a crocodile, and the realisation that for the crocodile she was food. In the encounter she came to understand that this was not a personal attack, but no less devastating for that. This harsh first-hand encounter led her to re-evaluate her relationship with the wider natural world and to consider that the way we treat animals who are food to us could be understood as just as harsh. It led her to engage with the possibility of encountering the wider natural world in a different way. Although a very different encounter, as a young child I experienced a challenging first-being encounter of my own with the wider natural world which I can recall vividly forty-six years later. I include it here as a 'word picture'. I expect that readers of this thesis have their own vivid

recollections of first-being encounters which remain with them, forming part of who they are as actors in the world.

On a walk with our mother my sister and I saw a distressed, disfigured rabbit writhing in extreme pain and with red swollen eyes. My mother called us away explaining that the rabbit had Myxomatosis⁵⁷ and was dying. She explained that this was a disease deliberately introduced to reduce the rabbit population because of concerns about rabbits eating crops. I can now reflect on the complex issues involved. Yet I can also still vividly recall the encounter itself and also my inability at first to comprehend my mother's words. I felt I must be misunderstanding my Mother's explanation as it did not seem possible to me that such a disease and such visible suffering could have been deliberately encouraged. I was shocked when my mother explained it to me again and I realised my initial understanding was correct. This made me reconsider my trust in adults. The encounter with this rabbit, on this occasion evoked an ethical response in me which started a new way for me to frame the world. One could argue that I am now layering onto this experience ideas of framing and ethics. However, whilst I certainly did not have the vocabulary at the age of six to express my thinking in the way explored here I would argue that I was capable of responding in an ethical way nonetheless, a way that is still part of my own material historicity.

This encounter with the dying rabbit is not included as a criticism of those in agriculture who are engaged in their own first-hand encounters with the wider natural world, and who face challenges and difficulties of their own. Rebanks (2015), a sheep farmer in the Lake District, describes how he came to realise that sheep farmers' love of the natural environment and their livestock is very different from the experience of the Romantic and modern day poets and artists. It draws on a very different kind of first-hand encounter but is valuable and felt with passion. The writer J.S. Collis (1975:11) touches on this difference as he

⁵⁷ This is a poxvirus which originated in the American continent (Arthur and Louzis 1988). It was deliberately brought into France by a landowner who wanted to control the rabbit population on his land (Bartrip 2008). The disease quickly spread through mainland Europe and made its appearance in the UK in 1953. It is widely felt that the disease was deliberately brought over to the UK by a landowner and its spread encouraged by UK farmers and landowners to control the huge increase in the rabbit population. It was not official government policy to encourage the spread of the disease and in the end legislation was brought in to outlaw this practice, partly due to public pressure.

explains his request to work in agriculture rather than be allocated a desk job in the Second World War:

I had hitherto regarded the world from the outside, and I wished to become more involved in it...I gained the opportunity to become thoroughly implicated in the fields instead of being merely a spectator of them.

In his writing Collis highlights the often harsh realities and very hard work of the agricultural world but also the sense of ecological connectedness and contentment he experienced in such encounters.

Masschelein and Simons' (2013) discussion of education as *skholé* emphasises that education has the potential to be an open, safe space where normalised framings of the world can be suspended; other ways of engaging with the world can be experienced and reflected upon and where 'foolishness' has a place. In this chapter I have highlighted the importance for education understood as *skholé* of embodied inter- and intra-action with others, including non-human others, and an openness to 'the excess and abundance of possibilities of creating new worlds' (Facer 2016:59) that such engagement opens up.

7.4 Conclusion and summary of chapter

In this chapter I have initially explored the possibility of reframing the question about what constitutes human subjectivity to *who* emerges as a unique subject in first-person encounters with other humans under conditions of plurality, that is to say when there is an opportunity to speak and act with others open to the stance one expresses. This opens the possibility of a shift from a static or substantial concept of what the human subject is to the possibility of a radically open dynamic process of *who* a person is. In such a dynamic approach the self can emerge through an intersubjective first-person/first-being encounter 'never outgrowing its open malleable ego boundaries' (Keller 1986). I have extended the possibility of subjectivity and intersubjective encounters with other humans to include the possibility of intersubjective encounters with the wider natural world. I have also discussed how intersubjective first person/being encounters with others under conditions of plurality can draw on Arendt's two-fold conception of forgiveness and mutual promising as a way to approach the issue

of ethics and emergence of the new. In the next chapter I elaborate on how my understanding of education which explores, allows and values an intersubjective encounter with other humans and with the wider natural world opens the possibility of an education which is both a sustainable and a democratic process.

Encouraging encounters with unique others can open up 'spaces of appearance' in which *who* one is can emerge intersubjectively, allowing for the possibility of the insertion of something radically new into the world. Such encounters are risky due to the unpredictability, unboundedness and irreversibility of action, but it is a risk worth taking for the sake of the potential opened up.

The *who* who emerges in encounters with unique others can make an important contribution to bringing new, ethical ways of knowing, being and acting in the world essential for sustainability. An educational process which encourages and allows such encounters, including the risks inherent in them, provides an opportunity to respond sustainably to the social and environmental questions and challenges that the world faces.

Chapter 8: Conclusions - Education, sustainability and intersubjectivity: exploring the possibility of the emergence of new ways of knowing, being and acting in the world.

8.1 Key issues explored and ideas developed in the thesis

In this chapter I first of all summarise the arguments I have put forward in this thesis and suggest how the research responds to the research questions posed in chapter one. I then highlight and draw out the key contributions that the thesis makes to education engaging with the issue of sustainability. I also discuss areas not explored in the thesis, difficulties this creates and reasons for the choices made. I draw the chapter to an end by highlighting possibilities for engagement opened by my research with various developing research fields. I finally close the chapter and the thesis with a concluding comment which highlights the key idea identified by the thesis and what it can contribute to education.

8.2 Summary of chapters and how research responds to the research questions

In the introduction to this thesis I identified a paradox inherent in the notion of sustainability, a paradox which then raises questions for education which seeks to take the issue of sustainability seriously at a time when the world faces an unprecedented ecological crisis. To 'sustain' something is 'to cause something to continue for an extended period of time' (Oxford Living Dictionary: English: online). What is paradoxical is that to 'sustain' something it must also be allowed to emerge into something different than it is, for example an acorn into a unique oak tree, a human baby into a ballerina. Furthermore, one cannot always know in advance what that 'something' will be. I argued that education is fundamentally about sustainability as its role is to allow/encourage a human being to grow into someone different than he/she currently is. This paradox highlights four important research questions:

- *Is education set up in ways which allow or even encourage the emergence essential for sustainability and for education?*
- *If one accepts that it is not, which underpinning 'a priori' conceptions of education are blocking such emergence?*
- *If education is not set up to encourage the emergence of the new what can education do to encourage, even if it can never guarantee, such emergence?*
- *How can the ethical issues which arise from the unboundedness, irreversibility and unpredictability of the emergence of the new be approached?*

The arguments presented in this thesis are not an abandonment of past and present knowledges. Rather, the thesis argues for the hope that we can draw on past and present knowledges, identify current limitations and seek to go beyond them.

In chapters one and two I noted that the paradox inherent in the notion of sustainability is reflected in the confusion and difficulties when society attempts to discuss sustainability and also sustainability and education. I noted that there is a commitment in the work of some educationalists such as Sterling (2009 [2001], 2010) and Orr (2004) to emergence of the new and a bemoaning of the slow process toward such change. However, there is relatively little attempt across the literature over several decades to identify and challenge underpinning, often hidden, philosophical principles in education which can act as a barrier to such emergence (for example see discussions in Jickling 1994, Sund and Greve-Lysgaard 2013).

In chapter two I explored the development of the concepts of sustainability, sustainable development and also how these ideas have been explored in educational contexts both internationally and in the UK. The purpose of this exploration was to clarify various understandings, issues and developments in the field. This exploration drew out the importance of the emergence of the new in some approaches. I introduced Facer's (2016) 'pedagogy of the present' and

how such a pedagogy can enable approaches to the issue of the future in ways which leave it radically open and discussed why this is important. I introduced posthumanist and posthuman framings of what it is to be a human in the world and how the trajectory of this thesis follows a line of thinking through posthumanism towards a posthuman understanding of what it is to be human. The chapter provides both a backdrop to the arguments in this thesis and a shared understanding of where the research in this thesis can make a contribution.

In chapter three I explored the value of undertaking theoretical work to explore the research questions I identified. In particular, I drew attention to the importance of theoretical work which engages in the development of new logics. Such logics challenge existing ways of thinking, and encourage the possibility of new ways to be in the world. I highlighted the value of the notion of *geisteswissenschaftliche Pädagogik*, a tradition which values asking ontological (what is education?) and axiological (what is education for?) questions. I explored writing and other forms of creativity as part of the theorising process rather than something which occurs as an outcome *after* theorising. I discussed the issue of validity/authenticity in theoretical research including the role of both analysis and intuition in that process.

In chapter four I identified and discussed complexity and what Osberg (2015) calls complexity-compatible approaches as providing a theoretical framework for approaching the research questions. I also explored how feminist approaches could contribute to the theoretical work undertaken and the fit between complexity/complexity-compatible thinking and feminist thinking. I discussed the dynamic logic of Heraclitus (500 BCE) and Bergson (1912, 1992 [1946]). I highlighted how Bergson's idea of *élan vital*:

the explosive force - due to an unstable balance of tendencies - which life bears within itself (1912:103)

provides a way to understand the 'driver' for this dynamic understanding of the world. For Bergson *élan vital* is not some kind of separate or spiritual force, rather it is part of the matter of life itself. I point out that the argument I make in this thesis does not concern whether this understanding of the world as dynamic is 'true'. Instead my focus is what emerges from such an

understanding of a *world in flux*, and how approaching the world through this logic can contribute to meeting the ecological and social challenges facing the world today and keep the possibility of the future radically open. Chapter four thus helps to establish the importance of emergence for sustainability and to provide a logic in which the paradox of sustainability can be opened up in educational settings.

In chapter five I drew on Biesta's 'pedagogy of interruption' (2010,2013) to argue that an underpinning, often unnoticed, assumption in education is that the human subject is a rational autonomous being and that this rational autonomy is a natural capacity or essence of every human. The issue of subjectivity, understood in this way, was brought into the realm of education by the (European) Enlightenment. According to the European Enlightenment rational autonomy is an area to be developed in education alongside acquisition of knowledge and skills and socialisation. In such a logic the child is understood to be pre-rational and the role of the teacher is to bring the child to a state of rational autonomy. Some contemporary thinkers (for example see Bakhurst 2011) argue for such an emphasis on the development of rational autonomy. Biesta, in contrast, points out two problems with this European Enlightenment framing of subjectivity. Firstly, it closes down other ways to be a human subject. Secondly it introduces an essentialist notion of subjectivity, in which subjectivity is contained within humans in a predefined set of essential pre-determined characteristics. In chapter five I argued that the premature closing down and essentialist understanding of subjectivity prevents the emergence of subjectivities which both challenge the myth of separateness and the dominance of rationality in Western thinking and hinder unexpected ways of living in and sharing in the world. I argued that if the emergence essential for sustainability *is* to be allowed into education it is necessary both to notice and interrupt this framework. Following and developing Biesta's line of thinking, which I identified as a posthumanist approach, I then argued for Arendt's conception that 'action and speech create a space between the participants' (Arendt 1974 [1958]:198). In such spaces, through acting and speaking in the presence of others who are themselves unique beings, one's uniqueness as an *initium*, a beginner, can emerge. Such an *initium* can bring new subjectivities, new ways of knowing, being and acting into the world.

I then argued that, whilst accepting Biesta's argument that 'spaces of appearance' are 'fleeting moments' which cannot be forced, produced as a predetermined end, one is nonetheless *hungry to encourage* the possibility of such moments. I drew on the ideas of Arendt, Mouffe and Rancière to explore ways to encourage but never guarantee such moments. Whilst different in some ways, all three thinkers share an emphasis on thinking which is both disruptive of existing frameworks and inaugurative of new ways to be and act in the world. I highlighted Arendt's idea of 'visiting' (2006b [1961]:241) which Biesta (20013:116) refers to as 'seeing through your own eyes from a position which is not your own'. 'Visiting' arises from Arendt's (1994 [1961]: 322) conception of 'bearing with strangers'. This conception recognises, rather than erases, the space between people which makes possible the new which is essential for sustainability. I discussed Mouffe's (2000, 2005, 2014) exploration of agonistic, rather than antagonistic pluralism. Agonism, derived from the Greek word 'struggle' is a political concept which emphasises the potentially positive aspects of certain forms of political conflict. It recognises that rather than a single rational way forward a number of ways exist where the decision to be made could be equally argued as rational. This creates a 'moment of undecidability' where the decision to be made could go in a number of different ways. Arising from such moments one way is followed but a trace of the other possible ways forward remains and needs to be recognised. In such an understanding agonism can be understood as an essential part of living together in the world. Others who argue for the alternative ways forward can be approached as agonistic 'adversaries' rather than as enemies to be silenced. I explored Rancière's (2010) idea of *dissensus*, the insertion of new ways of knowing, being and acting into the existing 'arrangement of the sensible'. I also discussed understanding of the educator's role as one of challenging the student to use his or her intelligence, under the presumption of an equality of intelligence and how this can open possibilities for thinking and acting which are both disruptive of existing frameworks and inaugurative of new ones. Teachers can draw on, and when appropriate, share with students the ideas of Arendt, Mouffe and Rancière. Through this they can encourage the possibility of recognising, allowing and valuing moments which interrupt existing understandings of subjectivity and open up 'spaces of appearance'. I drew

attention to the Greek concept of *skholé* and the role that such an understanding can play in the possibility of opening up of 'spaces of appearance'. *Skholé*, the etymological root of the word 'school', is a space, protected from politicisation by the political issues of the day. I discussed Masschelein's (2011) and Masschelein and Simons' (2013) exploration of *skholé* and how suspension, profanation and attention can encourage the possibility of education as *skholé*.

Finally, I argued that encouraging conditions where 'spaces of appearance' are a possibility - spaces in which what it is to be a human subject who can act in the world is left radically open - builds a bridge between education as a sustainable process and education as a radically democratic process. This rich notion of education as a sustainable and radically democratic emergent process can also be understood as a 'pedagogy of the present' which frames democratic education as 'a politics of disclosing and holding open new possibilities for all future generations' (Facer 2016:60).

These discussions and arguments respond to my research questions: *Is education set up in ways which allow or even encourage the emergence essential for sustainability and for education? If one accepts that it is not, which underpinning 'a priori' conceptions of education are blocking such emergence? and If education is not set up to encourage such emergence what can it do to encourage, even if it can never guarantee, such emergence?*

In chapter six I explored Arendt's conception of forgiveness and mutual promising (1974 [1958]) and how this provides a way to approach the challenging and important issue of ethics and emergence. This was not an accidental conflation of ethics and politics. It was a deliberate strategy to draw attention to Arendt's contribution to politics/the public domain. Arendt's orientation towards the political arises from the ethical dilemma of how to live with others, how to bear with 'strangers forever in the same world' (1994 [1961]: 322), without falling prey to totalitarianism and all that it can, and has, unleashed in the world. I acknowledged that this ethical turn is a bold move since Arendt is usually categorised as a political thinker, with Birmingham (2006:131 cited in Topolski 2011:7) going so far as to state 'the most difficult aspect of Arendt's political theory is her insistence that the ethical be removed

from political thinking'. To make this move I drew on Topolski's (2011, 2015) assertion that Arendt's writing cannot be understood simply within a Western understanding of politics. Instead, Arendt's thinking stands *hors catégorie*. It arises *both* from the Judaic - 'an intellectually rich space which exists between faith and philosophy' (Topolski 2011:2 footnote 7) and Arendt's training in Western (Hellenic) philosophy. I argued Arendt understands ethics not as a theory but as an event. The event responds to 'specific difficulties in a particular context and is based on actual mutual confidence in the faithfulness and determination of others' (La Caze 2014:217). For Arendt (1974 [1958]: 46) forgiveness and mutual promising:

Arise directly out of the will to live together with others in the mode of acting and speaking together, and thus they are like control mechanisms built into the very faculty to start new and unending processes.

Forgiveness and mutual promising create *horizontal relationships* between people. These relationships can be a source of a dynamic *horizontal ethics* which, to cite Topolski (2011: 8-9):

arise from a plurality, and in the between, rather than coming from without or above.

I then highlighted and discussed Topolski's (2011) argument that Arendt builds on a dynamic sense of forgiveness and mutual promising inherent in the Judaic idea of *teshuvah*, albeit, and very importantly, Arendt uses this idea in the political sphere and is *not* making a religious point. *Teshuvah* emphasises *shuv* – the act of turning. Forgiveness allows a release from and a turning from the past and trespasses committed there and mutual promising opens the possibility of hope for the future. I then explored how the aspect of mutual promising in Arendt's thought keeps open and alive the power/potentiality which emerges in 'spaces of appearance'. This might seem to be 'wishful thinking' but practising forgiveness and mutual promising repositions individuals, including children and students of all ages as actors, not passive recipients in the world. As Keenan (2003:86) points out:

The force of promise lies in its ability to form a new political community or 'space' where none had been before, by deliberately leaving a trace or mark in the present that immediately becomes the past on whose basis the identity and the freedom of the community can be measured.

From this exploration of Arendt's ideas I argued that, in her two-fold conception of forgiveness and mutual promising, she does not draw on a set of normative ethical guidelines. Indeed, as I have pointed out, she was very much against the inclusion of such an approach in the political domain. Instead she looks towards plurality and an encounter with others in an event as a source of dynamic ethics. This involves the act of *shuv*, of turning from past wrongdoings towards hope for the future through engaging in dynamic encounters with unique others, open to stances expressed. The act of *shuv* can be seen as a moment of ethical choice, placed on every actor in the world. This chapter responds to my research question: *How can the ethical issues which arise from the unboundedness, irreversibility and unpredictability of the emergence of the new be approached?*

Chapter seven brought together the ideas proposed in the earlier chapters. It does this by focusing on the moment of *encounter* itself. I first of all argued that such encounters can be understood as intersubjective first-person⁵⁸ encounters with other humans. In these encounters there is the possibility for the self to emerge. However, since this is happening under conditions of plurality others are also bringing their own beginnings into the world. Intersubjective encounters do not erase the uniqueness of the other in a totalising gesture, but instead recognise that we are all human in such a way that 'nobody is ever the same as anyone else who lived, lives or will live' (Arendt 1974 [1958]:8). In the encounter with the other the self is not individuated by the other, nor is it prevented from emerging. Instead the self emerges intersubjectively in the 'space between "I and we"' (Topolski 2015:176): an immanent self, 'never outgrowing its open malleable boundaries' (Keller 1986: 134). The intersubjective subject who emerges exceeds existing ways of being in the world: a surplus. This surplus creates what Honig (1995:146) calls an agonistic disruption and Rancière (2010:69) a *dissensus* - the insertion of something radically new into the existing arrangement of the world. I then drew on Arendt's understanding of ethics as an event and her conception of forgiveness and mutual promising to

⁵⁸ As I noted in chapter seven the word 'person' in the grammatical term 'first person' employed by Loidolt (2016) to discuss phenomenological encounters is potentially problematic when extended to indicate a reciprocal encounter as I with another/ a phenomenon in the wider natural world. I therefore adopt the term first-person/first-being.

open the possibility that intersubjective first-person encounters can be ethical encounters.

I widened the focus from Arendt's discussion of the human realm to explore the possibility of first-being intersubjective encounters with the wider natural world, including the possibility of ethical encounters. I explored how this seems challenging within the confines of Western philosophy but there is an opportunity, including in education, to engage in enlarged thinking: a process of exploring ideas from a variety of viewpoints which are not one's own without subsuming these ideas into pre-existing, predefined top-down categories. I drew in ways that posthumanist and posthuman thinking can contribute to such enlarged thinking.

I then discussed how education which takes democracy and sustainability seriously needs to encourage, reflect on and value first-hand intersubjective encounters.

I argued that education, especially education understood as *skholé*, can provide the leisure, the open safe space to *reflect on* the possibility of encounters with other humans and with(in)the wider natural world and also to *engage in* such encounters. Encounters can 'interrupt' many types of educational activities Teachers need to be sensitive to this possibility, to allow and value such interruptions.

I concluded that first-person/first-being intersubjective encounters have the potential to keep the appearance of *who* one is as a human subject radically open, allowing for the emergence of new ways of knowing, being and acting in the world essential for sustainability. *This chapter synthesises ideas from earlier chapters, addressing all my research questions.*

8.3 Contributions to the field of education and sustainability

Through this thesis I contribute to the field of education and sustainability in a number of ways.

I identify the importance of emergence for sustainability and develop a logic drawing on complexity and complexity-compatible ideas to explore a dynamic understanding of the world and of education itself. I also point out that whilst many ask for change in education as a response to issues of sustainability and also bemoan the slow rate of any such change, there is insufficient attempt to identify *a priori*, often hidden, philosophical underpinnings blocking such change.

I have taken up Biesta's (2013) invitation to take forward the ideas he expresses in his 'pedagogy of interruption'. Drawing on Arendt, Mouffe, Rancière and Masschelein and Simons I contribute approaches which teachers and students can explore to encourage, allow, recognise and reflect on, but never guarantee, such fleeting moments which can interrupt existing dominant educational paradigms. These are moments where spaces of appearance can open up, where *who* one is as an actor in the world can emerge in ways encouraging education to fulfil its fundamental role as a sustainable process.

My emphasis on a role for first-person/being intersubjective encounters in education as a sustainable process challenges autonomous and essentialist understandings of subjectivity. It provides ways to explore in educational settings what happens in the 'space between "I and we"' (Toploski 2015 :179) which Western philosophy traditionally neglects and to engage with what such understandings can contribute to education exploring sustainability. I go beyond Arendt (who limits her thinking to a modernist conception of the human realm). Through considering the possibility of first-being intersubjective encounters with(in) the wider natural world as well as with other humans I open the possibility that education can be a place where posthumanist and posthuman understandings of subjectivity can emerge. Such education can also be a place to reflect on what such new subjectivities can mean for the way one lives as an active participant in the world.

My thesis contributes ideas which recognise Arendt as an ethical thinker as well as a political one. In arguing for the recognition of Arendt's two-fold concept of forgiveness and mutual promising I contribute a way to approach the issue of ethics which arises when one encourages emergence. The argument made allows for an *immanent ethics* which arises horizontally between people speaking and acting together under conditions of plurality. It also extends this possibility into the wider natural world by contributing a rethinking of what 'speaking and acting together' can be in inter/intra-actions with the nonhuman 'other'.

The arguments I have made in this thesis build a bridge between education as a sustainable process and education as a radically democratic space which allows the emergence of the new essential for sustainability. This is not an understanding of democracy as learning about democracy (e.g. political parties, voting practices) or school-based activities modelled on existing democratic approaches (e.g. school councils, choosing own lessons). Nor is it concerned with trying to include currently excluded groups into the existing democratic order. Instead it is an understanding of democracy as a process in which there is the possibility that the subject emerges intersubjectively, creating a 'surplus' something which was not in the world before and which also then affects and changes the existing order in unforeseen and unforeseeable ways. As I explored in chapter four, Osberg (2015:35) explains:

the moment in which choice is undetermined - the moment of 'free play' - is the moment in which agency become possible. Since the 'decisions' made in such moments are not predetermined, it can be argued that they are not constrained by the notion of 'survival' which brings the full weight of necessity to bear on the individual at any given time. These 'decisions', rather, are superfluous to and in excess of necessity: they are truly free and as such they make possible the 'unthinkable' (that which cannot be thought possible within the constraints of the present: they exceed/transcend these constraints).

Education which allows the possibility of such moments where emergence can take place is thus both radically democratic and sustainable. Education thus framed can also be understood as a 'pedagogy of the present' (Facer 2016), a place of abundant possibilities and hope which aims to keep the future radically open to new ways of knowing, being and acting in the world.

8.4 Avenues not explored and areas of tension: A short reflection

In this thesis I have focused on overcoming rational autonomy understandings of the human subject introduced into education by the European Enlightenment. I am aware that not all educational systems share these historical roots. There are nonetheless traces of the importance of rational autonomous understanding of the human subject in many educational systems which draw on the Western philosophical heritage. I also acknowledge that this *a priori* understanding of the human subject is only one of the blocks to moves towards education as a sustainable, emergent process but I would argue it is an important one which needs examination and challenging.

I acknowledge that the issue of subjectivity with(in) the wider natural world is a vast area which is being discussed in a wide range of philosophical and scientific investigations. What I have tried to convey in my arguments is that education can be a place to explore, engage in and 'play' with the possibility of ethical intersubjective encounters, including ethical encounters with(in) the wider natural world. Education can also be a place to value what emerges from such encounters. I also acknowledge that my drawing on indigenous/traditional knowledges within the arguments made is done as an outsider. In presenting these ideas I also run the risk of being accused of romanticism, inaccuracy and proposing these ideas as a 'blueprint' for action, another premature closing down of subjectivity. This closing down is not what I intend – and I hope a close reading of the text overcomes this danger. Intercultural learning is an important area for development, and is one in which I hope to participate after completion of my thesis.

This thesis is theoretical. It engages in 'action guiding theory' in both senses of the phrase used by Levinson (2016) in her engagement with the issue of interchange between theory and practice. Firstly, it understands 'action' as a noun generating areas for theoretical research which recognises action as a co-constructor of knowledge. Secondly, it is also 'action-guiding' theory which can now be further explored in educational practice in a wide variety of settings. I also recognise and value that teachers and students sometimes already engage in and value the ideas I have explored in this thesis. The thesis does not deny

such activities. Rather it hopes to contribute to understanding such activities further as well as encouraging others to engage with the possibility of the emergence of the new essential both for sustainability and for education.

I recognise that other philosophical issues and approaches are important in education and sustainability. I acknowledge the work being done using different approaches to theory, some of which I discussed in chapter two. This thesis is not written in the spirit of overturning or replacing such approaches. Rather the intention is to add another layer of possibility to such theoretical work.

I recognise that there is an apparent tension between arguing for leaving what it is to be a human subject radically open and at the same time arguing for a turn towards an exploration, influenced by feminist thinking, of what 'lies between the "I" and the "we"' (Topolski 2015:179) as a starting point for such a process. However, the space between 'I and we' is suggested in this thesis as a possible starting point not as a 'totalising gesture' defining of what constitutes the subjectivity which emerges.

There is also the issue of ideas researched but then not developed in this thesis, for example heterodox economics⁵⁹, and also the process thinking of Whitehead (1929, 1968[1938]). Choosing which ideas to develop is a challenging process. It is a two-step process. The first step I think of as 'choosing to choose' - a stage which comes prior to choosing and which involves the necessity of accepting that one has to let some ideas go for now. The second step is actually selecting which ideas to develop. This two-step process is difficult but necessary in the interest of creating the closure needed to produce a thesis for submission, which itself can then be a starting point for new activities.

8.5 Possibilities opened by the research

An important aspect of this thesis is my argument that Arendt can be understood as an ethical thinker as well as a political thinker. This opens a way,

⁵⁹ Heterodox economics explores ways to approach economics which challenge dominant market economics. For example, see the work of McMahon (1997), Nelson (1997, 2003a, 2003b, 2003c, 2008), Nelson and Goodwin (2005), Mies (2007), Soderbaum, (2008).

to interrogate Arendt's work alongside that of Levinas and generate new ideas from such an interrogation. Both Arendt and Levinas were well versed in the phenomenological thinking of Heidegger and both overturned his emphasis on singularity. Levinas did this through turning to ethics and alterity - to responding to the call of the other without reducing the other to the same (i.e. without reducing the other to the position of an object of our subjectivity). Arendt turned to plurality and action in the political sphere, understanding 'the political' as arising whenever people meet and speak under conditions of plurality (i.e. with unique others who are open to the stance one expresses, and also being open to others' expression oneself). By initiating critical conversations between the work of Levinas and Arendt thinkers such as Topolski (2015), Botbol-Baum and Raviello (2013) have made an important new start in this project of working beyond the categories of ethics and politics. Topolski (2015) argues that such critical conversations open a post-foundational⁶⁰ approach to ethics and politics. Butler (2015:1) recognises the importance and novelty of such an approach commenting how Topolski 'initiates a set of critical conversations that we have yet to see'. These are conversations I look forward to taking part in. Through such engagements I hope to be involved in some small way in opening possibilities in the recursive development of ideas which can help people to live responsibly together in the world and bear with others, both human and other than human, who are 'forever strangers' but not strange⁶¹. This is a challenge as pressing now as at any time in history.

I would like to take the arguments developed in this thesis forward through sharing ideas with others in the emerging interdisciplinary field of anticipation studies. Anticipation studies aim to

Create new understandings of how individuals, groups, institutions, systems and cultures use ideas of the future to act in the present (Anticipation 2017: online).

⁶⁰Post-foundationalism aims to open up:

a constitutive reciprocal relation between epistemology and hermeneutics, avoiding a collapse into the former (with its "meta-narrative") or the latter (with its isolated narratives). The goal is to maintain the search for 'truth' as an ideal that drives inquiry, without asserting that any particular claim to knowledge provides a totalising and final metanarrative (Shults 2003: online).

⁶¹ See Hansen (2004:19) for further discussion of how it is necessary, if one is to have the capacity to bear with strangers, to be able to distinguish between 'strangerhood' and 'strangeness'.

If one makes an 'ontological assertion, that the future will constitute a different reality'(Facer 2016:58) and be a site of radical novelty, then an important role of education in the present is acting in ways to encourage this novelty to emerge. This has been the central aim of the ideas developed in this thesis which I hope can provide a basis for sharing ideas with others interested in approaching the issue of the future in ways which keep it radically open.

8.6 Final remark

This is a hopeful thesis. This hope is not what Dryzek (2005) calls a 'Promethean' view⁶² in which we rely on human ingenuity to find ways for us to continue with 'business as usual'. Instead it is a hope founded on approaches which challenge the myth of separateness whilst not erasing the uniqueness of each participant in the world. I have made arguments which repositions adults and children as actors in the world who through speaking and acting with others have the potential to generate power to bring new ways of knowing, being and acting in the world essential for sustainability. Education, in such a logic, has the potential to be a place where we:

love our children (*and students of all ages*—my addition) enough not to expel them from our world and leave them to their own devices, nor to strike from their hands their chances of undertaking something new, something unforeseen by us.

Arendt (2006a [1961]:193)

⁶² Dryzek (2005) develops a number of discourses or categories for the ways that different individuals or societies approach the issue of sustainability and possible responses to the challenges it poses.

Appendix 1: Copyright permissions for figure 7 and figure 10

Copyright Permission for Figure 7: Participating in *The Trembling Grass: Writing with Nature* Eco-Poetry Workshop 25.10.2014

Elizabeth-Jane Burnett <E.Burnett@staff.newman.ac.uk> □

To:

Tue 15/11/2016 00:40

Chave, Sarah

Hello Sarah,

Thanks for getting in touch: I am happy for the photo you attached to be used in your thesis.

Yes it was a lovely workshop and I remember your participation {and your husband's} well - I'm really pleased it has been of use to you.

Things are going well here, although not enough time to get everything done as I'm sure you can appreciate being in the throes of your thesis! I hope it goes well and to cross paths again.

Best wishes,

Elizabeth-Jane

Dr Elizabeth-Jane Burnett

Senior Lecturer in Creative Writing

Programme Leader for English & Creative Writing

From: Chave, Sarah <ssc203@exeter.ac.uk>

Sent: 12 November 2016 14:43

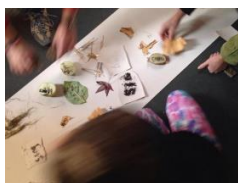
To: Elizabeth-Jane Burnett

Subject: request for permission to use a picture you took in PhD thesis

Dear Elizabeth,

I am a PhD researcher at the University of Exeter. In I attended an Eco-poetry workshop {along with my husband Peter} which you and Dr Camilla Nelson and organised in Exeter as part of the Trembling Grass project. You took some photos at the event and published them in twitter.

I would like to include one of the photos in the methodology chapter of my thesis where I talk about writing as a creative process and then extend the exploration of creativity to taking part in other types of processes. The photo shows the work and some hands - I attach it here. My hand is on the right coming out of the green jacket!



We have to attach written permission for copyright pictures in the thesis as once examined the thesis is placed in Open Research Exeter which can be accessed online.

I enjoyed looking at your profile and reading your latest news. I do hope your various projects are going well. I still think about the eco poetry workshop!

Kind regards,

Sarah Chave

Copyright Permission for Figure 10: Children on their way to school – Cité du Soleil, Port-au-Prince, Haiti

To:Chave, Sarah <ssc203@exeter.ac.uk>;
1 attachments {6 MB
11/14/2016 Re:
Re: Copyright permission request for inclusion of a photo in a PhD thesis

Hi Sarah,
Yes that's fine – the credit is: Copyright Mark Edwards/Hard Rain Photo library.
I've attached the PDF about the new exhibition project – perhaps you can find someone who can bring it to Exeter!
All best
Mark

Mark Edwards
Hard Rain Project is a charity registered in England.
Charity Number 1153955

199 Shooters Hill Road, London SE3 8UL, UK
+44 (0)77 100 99 818
www.hardrainproject.com
Skype: mark.edwards.hrp
mark@hardrainproject.com

TO: Mark Edwards <mark@hardrainproject.com>
Sun 13/11/2016 23:14
From: "Chave, Sarah" <ssc203@exeter.ac.uk>
Date: Saturday, 12 November 2016 at 13:06
To: Mark Edwards <mark@hardrainproject.com>
Subject: Copyright permission request for inclusion of a photo in a PhD thesis

Dear Mark,
I am a PhD researcher at the University of Exeter. Several years ago you sent me a copy of Children on their way to school – Cité du Soleil, Port au Prince, Haiti ©.Edwards and Timberlake (2012) and kindly gave me permission to use the photograph in a poster I presented at the Philosophy of Education Annual Conference in March 2013. I attach the poster. I think I already sent you the poster when it was completed as you requested at the time.

I am now at the point of finalising my thesis *Education, sustainability and intersubjectivity: exploring the possibility of the emergence of new ways of knowing, being and acting in the world* for submission and need to include written permission for copyright material in the thesis as, once examined, it will be placed in Open Research Exeter which can be accessed online. I would be extremely grateful if you could confirm whether you give me permission to use your photo in a chapter I have written. The chapter is on the philosopher Arendt's conception of forgiveness and mutual promising and how this can contribute a way to approach the issue of ethics and the emergence of new ways of knowing being and acting in the world. I use it in a section on *potentia* a sense of energy and originality, a sense that one can act and make a difference in the world, which exists even in the bleakest of environments. I include in the text of the chapter that the photo is copyright and also description of you speaking about the experience which led to the photo. I can send you a copy of the chapter or even the whole thesis if you wish!

I look forward to hearing from you. - Kind regards, Sarah Chave

Glossary of Terms

Agonistic pluralism	This is a term used by Mouffe (2000, 2005) as an alternative to antagonistic pluralism. Agonistic pluralism allows for a recognition that there will always be those whose views are different from one's own, and whose preferred course of action was equally valid but not chosen, and that such a situation is an inevitable part of the human condition. It recognises that those holding different views from one's own can be adversaries to be defeated but respected rather than enemies to be destroyed, silenced or converted, or treated as though they did not exist in the first place.
The Anthropocene	A term widely used since its coining by Paul Crutzen and Eugene Stoermer in 2000 to denote the present time interval, in which many geologically significant conditions and processes are profoundly altered by human activities. These include changes in: erosion and sediment transport associated with a variety of anthropogenic processes, including colonisation, agriculture, urbanisation and global warming, the chemical composition of the atmosphere, oceans and soils, with significant anthropogenic perturbations of the cycles of elements such as carbon, nitrogen, phosphorus and various metals (International Commission on Stratigraphy 2016).
Complexity-compatible thinking	Complexity-compatible thinking is a term used to describe theories and ideas which whilst not identified as complexity theory are compatible with it and sometimes share some of its historical sources (Osberg (2015)).
<i>Dissensus</i>	The thinker Rancière (2010:69) uses the term <i>dissensus</i> not to denote a 'conflict of interests, opinion, or value'. Instead dissensus is 'a division inserted in "common sense"; a dispute over what is given and about the frame within which we see something as given'.
(European) Enlightenment	The (European) Enlightenment was a seventeenth and eighteenth century movement which emphasised universal Reason. It was a reaction against the notion that 'the people' were incapable of understanding the world for themselves and indeed did not need to understand but just 'obey their 'betters' (God, the church, the Sovereign and the aristocracy). 'The people' were thus not free. The Enlightenment argued that freedom from this position could be attained through Reason and that each individual had the capacity to use their reason autonomously. There were limits to universalism, however, as certain categories of individual, for example women and children, were excluded by some thinkers. The

	(European) Enlightenment had a wide-ranging influence on political and cultural life from literature to political revolution.
(European) Renaissance	The Renaissance, literally ‘rebirth’ is a term used to refer to the ‘the period in European civilization immediately following the Middle Ages and conventionally held to have been characterised by a surge of interest in Classical [Ancient Greek] scholarship and values’. It came after a ‘long period of cultural decline and stagnation’. Broadly speaking, the Middle Ages refers to the period beginning in the fifth century and the Renaissance is considered to have commenced in 13 th /14 th /15 th century depending on area of Europe and other factors. (Encyclopaedia Britannica Online 2015).
First-person intersubjective encounter	A first person intersubjective <i>encounter</i> or event is an encounter in which a subject can express their uniqueness to other humans who are open to its expression, and can express their own uniqueness. In such an intersubjective encounter in which <i>who</i> a person is as a unique individual has the potential to emerge. Thus, as Loidolt (2016:49) explains, “‘who’” one is only develops in actualisation with others. The self is given in the face of others, which however, does not mean that it is originally individuated by others.
First-being intersubjective encounter	A first-being intersubjective <i>encounter</i> or event is an encounter in which a subject can express their uniqueness to the other-than-human who is (potentially) open to its expression and can express their own uniqueness. In such an intersubjective encounter <i>who</i> a person is as a unique being has the potential to emerge.
Global North and Global South	The terms Global North and Global South were introduced in the 1990s and became increasingly popular in the New Millennium. They are based on the United Nations Development Programme's (UNDP) Human Development Index to differentiate between different parts of the world. The term is generally understood as follows: the Global North consists of those 64 countries which have a high HDI (most of which are located north of the 30 th northern parallel), while the remaining 133 countries belong to the Global South. (For a critique of these terms see Hylland Eriksen [2015]).
<i>Initium</i>	In Arendt’s thinking, an <i>initium</i> is a beginner who can open up new ways of knowing, being and acting in the world.
Intersubjectivity	There are a variety of understandings of intersubjectivity in philosophical thinking. In this thesis I develop an immanent understanding of intersubjectivity in which <i>who</i> one is as a human subject enacts itself in the world in intersubjective first-person/first-being encounters with others unlike oneself and open to the stance one expresses.

Learning in the Natural Environment (LINE)	The Natural Environment White Paper <i>The Natural Choice: securing the value of nature</i> (Department for Environment, Food and Rural Affairs, 2011) recognised the importance of what it called learning in the natural environment (LINE). LINE aims to ‘strengthen the connection between people and nature’, and ‘gives an explicit call for every child in England to be given the opportunity to experience and learn about the natural environment’. To help achieve this ambition, Government has set out several key reforms which include a commitment to removing challenges and increasing teachers’ and schools’ abilities to teach outdoors’ (Natural England 2012: Online).
Modernism	A movement/way of thinking and being which arose in the mid-nineteenth century and continues to be influential in the present time. It deliberately rejected ideas of the past and emphasised rationality, innovation and scientific development in an era of increasing industrialisation and urbanisation.
Natality	Arendt’s notion of natality has a sense of both birth and ‘second birth’ and is a way that humans have the potential repeatedly to bring new ways of being into the world through words and deeds.
Radical	In this thesis I use the word ‘radical’ to identify something which is ‘uniquely new, something which has not been in the world before, and cannot be predicted from the ground from which it emerged’ (Osberg and Biesta 2008:313).
<i>Skholé</i>	A break from the issues of the day, ‘free time’ to encourage the possibility of the new. Literally translated from the Ancient Greek <i>skholé</i> means free time, a break, a respite, leisure. However, for the Ancient Greeks, this is not leisure in the sense of a luxury or break from a primary activity. Rather it denotes a time which has a higher value than what it is interrupting, a time to debate, reflect.
Spaces of appearance	Spaces where, through acting and speaking in the presence of others who are themselves unique beings, ‘who’ one is as an <i>initium</i> , a beginner, can emerge and bring new ways of knowing, being and acting into the world.
Subjectivity	In Western philosophical tradition ‘subjectivity’ refer to a sense of self, a sense of who one is, and how one acts, in the world, a capacity to have higher order thoughts and to reflect on selfhood.
Sustain	‘To cause something to continue for an extended period of time’ (Oxford Living Dictionary: English: Online). Whilst one normally thinks of that ‘something’ as living, it is also possible to consider sustaining as relating to non-living things such as

	rock or sand as part of a landscape, integral to ecosystems within that landscape.
Sustainability	The capacity to endure. In ecology the word describes how biological systems remain diverse and productive over time. For humans it is the potential for long-term maintenance of well-being which in turn depends on the natural world and natural resources (Habitat.org.tr 2016: online).
Sustainable development	'Humanity has the ability to make development sustainable - to ensure that it meets the needs of the present without compromising the ability of future generations to meet their own needs' (WCED1987:1).
Western philosophy/western philosophical tradition	'Western Philosophy refers to philosophical thinking in the Western or Occidental world (beginning with Ancient Greece and Rome, extending through central and western Europe and, since Columbus, the Americas) as opposed to Eastern or Oriental philosophies (comprising Indian, Chinese, Persian, Japanese and Korean philosophies) and the varieties of indigenous philosophies' (Mastin 2008). Since it builds on Ancient Greek ideas it is sometimes referred to as Hellenic philosophy.
Wider natural world	I use this term to talk about the other-than-human to indicate that humans are also a part of the natural world.

References

- Adams, W.M. (1996). *Future matters: A vision for conservation*. Abingdon: Routledge.
- Agamben, G. (1998). *Homo sacer: Sovereign power and bare life* (D. Heller-Roazen Tr.). Stanford: Stanford University Press.
- Ajegbo, K. (2007). *Diversity and citizenship: Curriculum review*. London: DFES-00045. Retrieved 16.12.2009 from [http://publications.teachernet.gov.uk/eOrderingDownload/DfES_Diversity & Citizenship.pdf](http://publications.teachernet.gov.uk/eOrderingDownload/DfES_Diversity&Citizenship.pdf)
- Alhadeff-Jones, M. (2008). Three generations of complexity theories: Nuances and ambiguities. *Educational Philosophy and Theory*, 40(1), 66-82. Doi: 2007.00411.x
- Anderson, E. (1995). Feminist epistemology: An interpretation and a defence. *Hypatia*, 10(3), 50-84. doi: 10.1111/j.1527-2001.1995.tb00737.x
- Arendt, H. (1959). Reflections on Little Rock. *Dissent*, 53, (1959): 45-56. Retrieved 20.5.2015 from http://learningspaces.org/forgotten/little_rock1.pdf
- Arendt, H. (1968 [1951]). *Totalitarianism: The origins of totalitarianism: Part Three*. San Diego, CA: Harcourt, Brace, Jovanovich.
- Arendt, H. (1970). *On violence*. San Diego, CA: Harcourt, Brace, Jovanovich.
- Arendt, H. (1972). *Crisis of the republic*. San Diego, CA: Harcourt Brace & Co.
- Arendt, H. (1973 [1951]). *The origins of totalitarianism*. Orlando: Harcourt.
- Arendt, H. (1973 [1963]). *On revolution*. Harmondsworth: Penguin.
- Arendt, H. (1974 [1958]). *The human condition*. Chicago: University of Chicago Press.
- Arendt, H. (1977 [1971]). *The life of the mind*. New York: Harcourt Brace Jovanovich.
- Arendt, H. (1982). *Lectures on Kant's political philosophy* (R. Beiner, Ed.). Chicago: University of Chicago Press.
- Arendt, H. (1994 [1956]). Politics and understanding. In *Essays in understanding*. New York: Schocken.
- Arendt, A. (1996, [1929]). *Love and St Augustine* (J. Vecchiarelli & J. Stark Eds.). Chicago: Chicago University Press.
- Arendt, H. (2003). *Responsibility and judgement*. New York: Schocken Books.

- Arendt, H. (2006a [1961]) Crisis in education. In *Between past and future: Eight exercises in political thought*. London: Penguin.
- Arendt, H. (2006b, [1961] What is authority? In *Between past and future: Eight exercises in political thought*. London: Penguin
- Arendt, H. (2006c [1961]) Truth and politics. In *Between past and future: Eight exercises in political thought*. London: Penguin.
- Arendt, H. (2006d [1961]). What is freedom? In *Between past and future: Eight exercises in political thought*. London: Penguin.
- Arendt, H. (2007). *The Jewish writings*. New York: Schocken Books.
- Argenti, N. and Schramm, K. (Eds.), (2009). *Remembering violence: Anthropological perspectives on intergenerational transition*. Oxford: Berghan Books.
- Arthur, C.P. and Louzis, C. (1988). A review of myxomatosis among rabbits in France. *Revue scientifique et technique (International Office of Epizootics)* 7(4), 959-976.
- Ash, T. G. (1998). The Truth about dictatorship. *The New York Review of Books*, 45(3).
- Bakhurst, D. (2011). *The formation of reason*. Oxford: Wiley-Blackwell.
- Barnes, J. (1982). *The Pre-Socratic Philosophers*. London: Routledge.
- Barr, J. and Griffiths, M. (2004) Training the imagination to go visiting. In J. Nixon & M. Walker (Eds.), *Reclaiming universities from a runaway world* (pp. 85-99). Maidenhead: Maidenhead SRHE and Open University Press.
- Bartrip, P. W. J. (2008). Myxomatosis in 1950s Britain. *Twentieth Century British History*, 19 (1), 83-105. doi: 10.1093/tcbh/hwm016
- Bastian, M. (2014, 2nd May). Multi species methods: participatory research and the more-than-human. *Democracy's Non-Human and Non-Living "Others" International workshop, CUNY Public Science*. Retrieved 8.11.2016 from <http://www.authorityresearch.net/participations-others-audio-recordings.html>
- Bateson, G. (1972) *Steps to an ecology of mind*. San Francisco: Chandler.
- Bavidge M, & Ground I. (2009). Do animals need a theory of mind. In L. Leudar & A. Costal (Eds.), *Against Theory of Mind* (pp.167-188). London: Palgrave Macmillan.

- Beavan, C. (2016, 12th September) *The genius of Turner: The making of the Industrial Revolution* (R. Fell & C. Beavan, Producers). British Broadcasting Company (BBC) 2: London.
- Beltrán, C. (2009). Going public: Hannah Arendt, immigrant action and the space of appearance. *Political Theory*, 37 (5), 595-622.
- Benhabib, S. (1994). Deliberative Rationality and Models of Democratic Legitimacy. *Constellations*. 1(1), 1-18. doi 10.1111/j.1467-8675.1994.tb00003.x
- Benhabib, S. (2000). Arendt's Eichmann in Jerusalem. In D. Villa (Ed.) *The Cambridge companion to Hannah Arendt* (pp. 65-85). Cambridge: Cambridge University Press.
- Bergson, H. (1912). *Creative Evolution*, (A. Mitchell Tr.). London: Macmillan.
- Bergson, H. (1960 [1910]). *Time and free will: An essay on the Immediate data of consciousness*, (F.L. Pogson Tr.). New York: Harper and Row.
- Bergson, H. (1992 [1946]). *Creative mind: An introduction to metaphysics* (M.L. Andison Tr.). New York: The Citadel Press.
- Bernstein, R. J. (2002). *Radical evil: A philosophical investigation*. New York: Wiley.
- Biesta, G. (1994.) Education as practical intersubjectivity: Towards a critical pragmatic understanding of education. *Educational Theory*, 44(8), 299-313.
- Biesta, G. (1996) Education not initiation. *Philosophy of Education*. Retrieved 10.9.2015 from ojs.ed.uiuc.edu/index.php/pes/article/download/2247/942
- Biesta, G. (1998). Pedagogy beyond humanism: Foucault and the subject of education. *Interchange*, 29(1), 1-16. doi:10.1023/A:1007472819086
- Biesta, G. (2003). Learning from Levinas: A response. *Studies in Philosophy and Education*, 22(1), 61–68. doi: 10.1023/A:1021137611436
- Biesta, G. (2004). "Mind the gap!" Communication and the educational relation. In C. Bingham & A. M. Sidorkin, *No education without relation* (pp. 11-22). New York: Peter Lang.
- Biesta, G. (2006). *Beyond learning: Democratic education for a human future*. Boulder, Colorado: Paradigm.
- Biesta, G. (2010a). *Good education in an age of measurement: Ethics, politics, democracy*. London: Paradigm Publishers.
- Biesta, G. (2010b). *Jaques Rancière: Education, truth emancipation*. London: Continuum.

- Biesta, G. (2011). Disciplines and theory in the academic study of education: A comparative analysis of the Anglo-American and Continental construction of the field. *Pedagogy, Culture & Society*, 19(2), 175-192. doi:10.1080/14681366.2011
- Biesta, G. (2013). *The beautiful risk of education*. London: Paradigm Publishers.
- Biesta, G. (2015). On the two cultures of educational research, and how we might move ahead: Reconsidering the ontology, axiology and praxeology of education. *European Educational Research Journal*, 14(1), 11-22. doi:10.1177/1474904114565162
- Biesta, G. & Lawy, R. (2006). From teaching citizenship to learning democracy: Overcoming individualism in research, policy and practice. *Cambridge Journal of Education*, 36(1), 63-79. doi: 10.1080/03057640500490981
- Biggar, N (Ed.) (2007). *Burying the past: Making peace and doing justice after civil conflict*. Washington DC: Georgetown University Press.
- Birmingham, P. (2006). *Hannah Arendt and human rights: The predicament of common responsibility* (Series: Studies in Continental Thought). Bloomington: Indiana University Press.
- Blewitt, J. (2006). *The ecology of learning: Sustainability, lifelong learning and everyday life*. London and Sterling, VA: Earthscan.
- Bonnett, M. (2000). Environmental concerns and the metaphysics of education. *Journal of the Philosophy of Education*, 34(4), 591-602.
- Bonnett, M. (2002). Education for sustainability as a frame of mind. *Environmental Education Research*, 8(1), 9-20. doi: 10.1080/13504620120109619
- Bonnett, M. (2004). *Retrieving nature: Education for a post-humanist age*. London: Wiley.
- Bonnett, M. (2012). Environmental concern, moral education and our place in nature. *Journal of Moral Education*, 43 (1), 285-300.
- Bonnett, M. & Cuypers, S. (2002). Autonomy and authenticity in Education. In N. Blake, P. Smeyers, R. D. Smith & P. Standish (Eds.), *The Blackwell Guide to the philosophy of education* (pp. 326-340). Oxford: Wiley-Blackwell.
- Borgmann, A. (1992). *Crossing the postmodern divide*. Chicago: University of Chicago Press.
- Botbol-Baum, M. et Roviello, A. (Co-ords.) (2013). *Arrachement et évasion: Levinas et Arendt face à l'histoire (Partie 1)*. Paris: Vrin.

- Boulding, K. (1966). *The Economics of the Coming Spaceship Earth*. Retrieved 26.2.2014 from http://arachnid.biosci.utexas.edu/courses/THOC/Readings/Boulding_SpaceshipEarth.pdf
- Bowie, M. (1998). *Proust among the stars*. London: Harper Collins.
- Braidotti, R. (1991). Metamorphic others and nomadic subjects. Retrieved 9.11.2016 from http://www.tanyaleighton.com/p/p000620/LARIC_Braidotti_Metamorphic_Others_and_Nomadic_Subjects464f5.pdf
- Braidotti, R. (2006). The ethics of becoming-imperceptible. In C. Boundas (Ed.), *Deleuze and philosophy* (pp.133-159). Edinburgh: Edinburgh Press.
- Braidotti, R. (2011a). *Nomadic theory: The portable Rosi Braidotti*. New York: Columbia University Press.
- Braidotti, R. (2011b). *Nomadic subjects: embodiment and sexual difference in Contemporary Feminist Theory*, 2nd Edition. New York: Columbia University Press.
- Braidotti, R. (2013a). Posthuman humanities. *European Educational Research Journal*, 12 (1), 1-19. doi: 10.2304/eeerj.2013.12.1.1
- Braidotti, R. (2013b). *The posthuman*. Boston MA and Cambridge: Polity Press.
- Braidotti, R. (2016). Posthuman feminist theory. In L. Disch & M. Hawkesworth, M. (Eds.), *The Oxford handbook of feminist theory* (pp. 673-698). Oxford: Oxford University Press.
- Braidotti, R. and Wieringa, S. (1993). *Women, the environment and sustainable development: Towards a theoretical synthesis*. London: Zed Books.
- Bromley, D.W. (2008). Sustainability. In S. N. Durlauf and L. E. Blume (Eds.), *The New Palgrave Dictionary of Economics, 2nd Edition*. Palgrave Macmillan. Retrieved 5.12.2016 from http://www.dictionaryofeconomics.com/article?id=pde2008_S000482&edition=current&q=sustainability&topicid=&result_number=1
- Buber, M. (1970 [1923]). *I and thou, 2nd Edition*. (R.G. Smith Tr.). Edinburgh: T. & T. Clark.
- Butler, J. (2015). *Arendt, Levinas and the politics of relationality: publishers review*. Rowan International. Retrieved 29.4.2016 from <http://www.rowmaninternational.com/books/arendt-levinas-and-a-politics-of-relationality>

- Cantle, T. (2005). *Community cohesion: A new framework for race and diversity*. Basingstoke: Palgrave Macmillan.
- Carrington, D. (2016, 29th August). The Anthropocene epoch: scientists declare dawn of human-influenced age. *The Guardian*. Retrieved 10.11.2016 from <https://www.theguardian.com/environment/2016/aug/29/declare-anthropocene-epoch-experts-urge-geological-congress-human-impact-earth>
- Carruthers, P. (1998). Natural theories of consciousness. *European Journal of Philosophy*, 6(2), 203-222. doi: 10.1111/1468-0378.00058
- Carson, R. (1962). *Silent springs*. New York: Houghton Mifflin.
- Chalmers, D. J. (2002). *Varieties of emergence*. Manuscript written for the Templeton Foundation workshop, Granada, August 2002. Retrieved 20.6.2016 <http://consc.net/papers/granada.html>
- Chapuy, Jean-Baptiste (1793). *Liberté armée du sceptre de la Raison foudroyé l'ignorance et le Fanatisme : [estampe]*. Retrieved 28.6.2015 from <http://www.harvardartmuseums.org/art/342644>
- Chave, J. (2012). The story of the Basque children of 37: In the past, the present and into the future. Dissertation submitted for degree in Social Anthropology, Goldsmiths College, and University of London. Unpublished.
- Chave, S. (2015). Toward temporal conceptions of education as sustainability: Contributions from complexity and process thinking. In W. Leal Filho (Ed.), *Transformative approaches to sustainable development at universities* (pp.325-337). Cham, Switzerland: Springer International.
- Chave, S. (2016). Complexity theory and emergence: Contributions to ESD. In D. Summers & R. Cutting (Eds.), *Education for sustainable development in further education: Embedding sustainability into teaching, learning and curriculum* (pp.143-156). London: Palgrave.
- Cohen, S.M. (2016). Heraclitus. *Washington.edu*. Retrieved 12.1.2017 from <https://faculty.washington.edu/smcohen/320/heracli.htm>
- Collis, J.S. (1975). *The worm forgives the plough*. Harmondsworth: Penguin.
- Connected Communities (2014). *Connected Communities Festival: Cardiff 2014* (U-tube clip). Retrieved 12.7.2016 from <https://www.youtube.com/watch?v=Dmp81M3bfGU>

- Cunningham, R. (2001, 13-15th September). *Chaos, complexity and the study of education communities*. Paper presented to the British Educational Research Association Annual Conference, University of Leeds. Retrieved 13.2.2015 from www.leeds.ac.uk/educol/documents/00001895.doc
- Curren, R. (2009). *Education for sustainable Development: A philosophical assessment* London: PESGB, Impact Series. Republished on-line and retrieved 31.12.2016 from <http://onlinelibrary.wiley.com/doi/10.1111/imp.2009.2009.issue-18/issuetoc>
- Daly, H. (1991). *Steady state economics*. Washington DC: Island Press.
- Daly, H. (2014). *From uneconomic growth to a steady-state economy: Advances in ecological economics*. Cheltenham: Edward Elgar.
- Damlé, A. (2012). Posthuman encounters: Technology, embodiment and gender in recent feminist thought and in the work of Marie Darrieussecq. *Comparative Critical Studies*, 9(3), 303-318. doi 10.3366/ccs.2012.0065
- Davis, B. (2008). Complexity and education: Vital simultaneities. *Educational Philosophy and Theory*, 40(1), 50-65. doi:10.1111/j.1469-5812.2007.00402.x.
- Davis, B., Phelps, R. and Wells, K. (2004). Complicity: An introduction and a welcome. *Complicity: An International Journal of Complexity and Education* 1(1):1–7.
- Davis, B. and Sumara, D. (2006). *Complexity and education: Enquiries into learning, teaching and research*. London: Routledge.
- Department for Business Innovation and Skills (2010). *Skills for Sustainable Growth*. Retrieved 14.6.2014 from https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/32368/10-1274-skills-for-sustainable-growth-strategy.pdf
- Department for Children, Schools and families (DCSF) (2006). *National Framework for Sustainable Schools*. Retrieved 2.7.2011 from <https://www.education.gov.uk/publications/eOrderingDownload/Sustainable%20Schools%20A4%20leaflet.PDF>
- Department for Environment, Food and Rural Affairs (DEFRA) (2011). The natural choice: securing the value of nature. Retrieved 27.2.2014 from <http://www.officialdocuments.gov.uk/document/cm80/8082/8082.pdf>
- Department for Environment, Food and Rural Affairs (DEFRA) (2014). Natural Environment White Paper: Implementation Update Report, Gov.UK.

- Retrieved 3.2.2016 from
<https://www.gov.uk/government/publications/natural-environment-white-paper-implementation-updates>
- Department of Education (1996). *Government EE strategy*. London: DOE.
- Derrida, J. (1992). *The other heading: Reflections on today's Europe*. Indianapolis: Indiana University Press.
- Derrida, J. (2001). *On cosmopolitanism and forgiveness*, M Dooley (Tr.) London: Routledge.
- Derrida, J. (2002). The animal that therefore I am (more to follow) (D. Wills, Tr.). *Inquiry*. 28 (2), 369–418.
- Derrida, J. (2008). *The animal that therefore I am (more to follow)*. New York: Fordham University Press.
- De Waal, F. (2013, 22nd March). The brains of the Animal Kingdom: The Saturday essay. *The Wall Street Journal* [online]. Retrieved 3.2.2016 from
<http://www.wsj.com/articles/SB10001424127887323869604578370574285382756>
- De Waal, F. (2014). *The bonobo and the atheist: In search of humanism among the primates*. New York: W.W. Norton.
- Dietz, M. (1994). Hannah Arendt and feminist politics. In L. Hinchman & S. Hinchman (Eds.) *Hannah Arendt: Critical Essays* (pp. 231-260). Albany: SUNY Press.
- D'Ignazio, C (2014, 2nd May). *The babbling brook. Democracy's Non-Human and Non-Living "Others" International Workshop, CUNY Public Science*. Retrieved 8.11.2016 from
<http://www.authorityresearch.net/participations-others-audio-recordings.html>
- Dikeç, M. (2012). Beginners and equals: political subjectivity in Arendt and Rancière. *Transactions of the Institute of British Geographers*. Royal Geographical Society (with the Institute of British Geographers).
- Doll, W.E. Jr. (1993). *Post-modern perspectives on curriculum*. New York: Teachers College Press.
- Doll, W. E. Jr (2008). Complexity and the culture of curriculum. *Educational Philosophy and Theory*, 40(1), 190-212. Doi: 10.1111/j.14695812.2007.00404.x
- Douglas, M. (1975). *Implicit meanings: essays in anthropology*. London: Routledge & Kegan Paul.

- Dresner, S. (2002). *The principles of sustainability*. London: Earthscan.
- Dryzek, J. (2005). *The politics of the earth: Environmental discourses* (2nd Edition). Oxford: Oxford University Press.
- Duobliene, L. (2013). Phenomenological versus instructional approach to curriculum formation for sustainable development: A Lithuanian case study. *Journal of Education for Sustainable Development*, 7(1), 39–49. doi: 10.1177/0973408213495605
- Earth Charter (2000). The earth Charter. Retrieved 12.11.2016 from http://www.unesco.org/education/tlsf/mods/theme_a/img/02_earthcharter.pdf
- Edwards, M. (2012). Lecture 12.11.2012 to launch Plymouth University Hard Rain/Whole Earth photographic installation. <https://www.transitionnetwork.org/events/2012-11-12/hard-rainwhole-earth-exhibition-launch-reception-public-lecture> and http://www.hardrainproject.com/exhibitor_guidelines
- Edwards, M. and Timberlake, M. (2012). *Whole earth? Aligning human systems and natural systems*. London: Still Pictures Moving Words.
- Egenis Centre for the Study of Life Sciences (2015). *Symbiotic Processes: Conference programme and abstracts*. Exeter: University of Exeter. Retrieved 3.2.2016 from <http://www.exeter.ac.uk/news/events/details/index.php?event=4743>
- Ehrlich, P. (1968). *The population bomb*. New York: Ballantine.
- Facer, K. (2016). Using the future in education: Creating space for openness, hope and novelty. In H Lees & N Noddings (Eds.), *The Palgrave international handbook of alternative education* (pp. 52-67). London: Palgrave Macmillan.
- Ford, E. (2015, 19th January). Sustainable development goals: All you need to know. *The Guardian*. Retrieved 10/11/2016 from <https://www.theguardian.com/globaldevelopment/2015/jan/19/sustainable-development-goals-united-nations>
- Foster J. (2001). Education as sustainability. *Environment Education Research*, 7(2), 153-165. doi: 10.1080/13504620120043162
- Foster, J. (2011). Sustainability and the learning virtues. *Journal of Curriculum Studies*. 43(3), 383-402. doi.10.1080/00220272.2010.521260
- Fotheringham, S. (2013). Exploring the methodology of getting lost with Patti Lather. *The qualitative report*, 18(3), 1-4. Retrieved 31.12.2016 from <http://nsuworks.nova.edu/cgi/viewcontent.cgi?article=1541&context=tqr>

- Foucault, M. (1973). *The order of things. An archaeology of the human sciences*. New York: Vintage/Random House.
- Foucault, M. (1990). *The history of sexuality. Volume 1, An introduction*. New York: Vintage.
- Frankl, V. (2004 [1957]). *Man's search for meaning: The classic tribute to hope from the Holocaust*. London: Rider.
- Futureoxford (Online). *Community sustainability plan*. Retrieved 20.1.2017 from <http://www.futureoxford.ca/General/SustainabilityPlan/index.htm>
- Gärdenfors, P. (2008). The role of intersubjectivity in animal and human cooperation. *Biological Theory* 3 (1) 51-62. doi:10.1162/biot.2008.3.1.51.
- Global Justice Now (2015). *COP 21 Paris climate mobilisation*. Retrieved 29.11.2011 from <http://www.globaljustice.org.uk/events/cop-21-paris-climate-mobilisation>
- Gordon, M. (2001). *Hannah Arendt and education: renewing our common world*. Boulder, Colorado: Westview Press/Perseus.
- Gough, S. (2014). *Education, nature and society*. London: Routledge.
- Gough, S. and Scott, W. (2008). *Higher education and sustainable development: Paradox and possibility*. London: Routledge.
- Graeber, D (2001). *Toward an anthropological theory of value: The false coin of our own dream*. New York: Palgrave.
- Graham, D. W. (2015). Heraclitus. In E.N. Zalta (ed.), *The Stanford Encyclopaedia of Philosophy* (Fall 2015 Edition). Retrieved 18.6.2016 from <http://plato.stanford.edu/archives/fall2015/entries/heraclitus/>
- Grober, U (2012). *Sustainability: A cultural history*. Dartington: Green Books
- Grosz, E. (2011). *Becoming Undone: Darwinian reflections on life, politics, and art*. Durham, NC: Duke University Press.
- Ground, I. (2013, 14th May). *Listen to the Lion: Wittgenstein and animal minds*. Tenth British Wittgenstein Society Lecture. Retrieved 30.10.2016 from https://www.academia.edu/9298683/Listen_to_the_Lion__Wittgenstein_and_Animal_Minds
- Habermas, J. (1984). *The Theory of Communicative Action (Vol.1)*. Boston: Beacon Press.
- Habermas, J. (1994). Hannah Arendt's communication concept of power. In L.P. Hinchman. & S. Hinchman (Eds.), *Hannah Arendt: Critical essays* (pp.221-230). Albany: SUNY Press.

- Habitat.org.tr (2016). *Sustainability*. Retrieved 12.11.2016 from <http://environment-ecology.com/what-is-sustainability/247-sustainability.html>
- Hansen, P. (2004). Hannah Arendt and bearing with strangers. *Contemporary Political Theory*, 3, 3-22. doi: 10.1057/palgrave.cpt.9300124
- Haraway, D. (1988). Situated knowledge: The science question in feminism and the privilege of partial perspective. *Feminist Studies*, 14, 575-599.
- Haraway, D. (2000). A manifesto for cyborgs: Science, technology and socialist feminism in the 1980s. In F. Hovenden, L. Janes, G. Kirkup & K. Woodward (Eds.), *The gendered cyborg: A reader* (pp 50-57). London: Routledge.
- Haraway, D. (2008). *When species meet*. Minneapolis & London: University of Minnesota Press.
- Harvey, F. (2015, 2nd June). Everything you need to know about the Paris climate summit and UN talks. *The Guardian*. Retrieved 14.11.2015 from <http://www.theguardian.com/environment/2015/jun/02/everything-you-need-to-know-about-the-paris-climate-summit-and-un-talks>
- Hayden, P. (2014). Illuminating Hannah Arendt (pp. 1-22). In P. Hayden (Ed.). *Hannah Arendt: Key concepts*. Durham: Acumen.
- Hayles, N. K. (1999). *How we became posthuman: Virtual bodies in cybernetics, literature, and informatics*. Chicago: Chicago University Press.
- Her Majesty's Government (HMG) (1994). *United Kingdom sustainable development strategy*. London: HMSO.
- Heraclitus of Ephesus (2003 [500BCE]). *Fragments* (B. Haxton, Tr.). London: Penguin.
- Hetherington, L. (2012). *Walking the line between structure and freedom: A case study of teachers' responses to curriculum change using complexity theory* (Doctoral Thesis). Retrieved 6.11.2014 from <https://ore.exeter.ac.uk/repository/handle/10036/3868>
- Higher Education Academy (2014). *Education for Sustainable Development*. Retrieved 25.2.2014 from <http://www.heacademy.ac.uk/business/resources/esd>
- Hinchman, L.P. and Hinchman, S. (1994). Introduction to part four: Power and action. In L.P. Hinchman and S. Hinchman (Eds.) *Hannah Arendt: critical essays* (pp.209-210). Albany: SUNY Press.

- Holdrege, C. (2005). The forming tree. In *In Context* 14 (Fall). Retrieved 10.1.2017 from <http://natureinstitute.org/pub/ic/ic14/trees.htm>
- Holland, J. (1998). *Emergence: From chaos to order*. Massachusetts: Helix
- Honig, B. (1995). Toward an agonistic feminism: Hannah Arendt and the politics of identity. In B. Honig, (Ed.) *Feminist Interpretations of Hannah Arendt* (pp.135-166). Pennsylvania: Pennsylvania State University Press.
- hooks, b. (1994). *Teaching to transgress: Education as the practice of freedom*. New York: Routledge.
- Horn, J. (2008). Human research and complexity theory. *Educational Philosophy and Theory*, 40(1), 130-143.
doi: 10.1111/j.1469-5812.2007.00395.x
- Huebner, D. (1999). *The Lure of the Transcendent*. Mahweh, NJ: Erbaum
- Huckle, J. (1996). Realizing sustainability in changing times. In J. Huckle & S. Sterling (Eds.), *Education for sustainable development* (pp. 3-17). London: Earthscan.
- Huckle, J. (2013). Eco-schooling and sustainability citizenship: exploring issues raised by corporate sponsorship. *Curriculum Journal*, 24(2), 206-223.
doi.org/10.1080/09585176.2013.779286
- Hunter, J.W. (1997). Review: Democracy, chaos and the new school order by S.J. Maxcy. *The Journal of Educational Thought/Revue de la Pensée Educative*, 31(1), 90-93.
- Hunter, J. W. and Benson, G.D. (1997). Arrows in time: The misapplication of chaos theory to education. *Journal of curriculum Studies* 29, (1), 87-100.
- Hylland Eriksen, T (2015). *What's wrong with the Global North and the Global South: Voices from around the world*. Cologne. Global South Studies Centre. Retrieved 3.9.2016 from <http://gssc.uni-koeln.de/node/454>
- International Commission on Stratigraphy (2016). Subcommittee on Quaternary Stratigraphy: *Working group on the 'Anthropocene'*. Retrieved 10.11.2016 from <http://quaternary.stratigraphy.org/workinggroups/anthropocene/>
- Intergovernmental Panel on Climate Change (IPCC)(2007). *Climate Change 2007: Working Group III: The dual relationship between climate change and sustainable development*. Retrieved 12.9.2016 from http://www.ipcc.ch/publications_and_data/ar4/wg3/en/ch2s2-1-3.html
- Intergovernmental Panel on Climate Change (IPCC) (2014). *Fifth Assessment Report*. Retrieved 16.6.2014 from <http://www.ipcc.ch/>

- International Union for the Conservation of Nature (IUCN) (1970). *Environmental Education Workshop*. Carson City, Nevada.
- International Union for Conservation of Nature (IUCN), United Nations Environment Programme (UNEP) & World Wildlife Fund (WWF) (1991). *Caring for the earth: A strategy for sustainable living*. Gland, Switzerland: IUCN, UNEP and WWF.
- Jacobs, M. with The Real World Coalition (1996). *The politics of the real world*. London: Routledge.
- Jakub, F. (2005). Political conditions of philosophy according to Arendt. In D. Gard, I. Main, M. Oliver, & J. Wood (Eds.), *Inquiries into Past and present: Vienna: IWM Junior Visiting Fellows' Conference, Vol. 17*. Retrieved 1.1.2017 from http://www.iwm.at/page/210/?option=com_events&task=view_cat&catid=0&year&Itemid=3&limit=100&limitstart=0
- Janover, M. (2005). The limits of forgiveness and the ends of politics. *Journal of Intercultural Studies*, 226(3), 221-235.
- Jickling, B. (1994). Why I don't want my children to be educated for sustainable development: Sustainable belief. *Trumpeter* 11(3). Retrieved 1.1.2017 from <http://trumpeter.athabascau.ca/index.php/trumpet/article/view/325/497>
- Jickling, B. (2016). Losing traction and the art of slip-sliding away: Or, getting over education for sustainable development. *The Journal of Environmental Education*, 47(2), 128-138. doi: 10.1080/00958964.2015.1080653
- Jickling, B. & Wals, A. (2008). Globalisation and environmental education: Looking beyond sustainable development. *Journal of Curriculum Studies*, 40(1), 1-21. doi: 10.1080/00220270701684667
- Johnston, C. (2013). Geography, science, and subjectivity: Farm animal welfare in the United States and Europe. *Geography Compass*, 7(2), 139-148. doi: 10.1111/gec3.12028
- Jonas H. (1984). *The Imperative of responsibility: In search of an ethics for the technological age*. Chicago and London: University of Chicago Press.
- Kant, I. (1964 [1781]) *The critique of pure reason*. (N. Kemp Smith Tr.). London: Macmillan.
- Kant, I. (Online [1784]). *What is Enlightenment?* Retrieved 15.1.2017 from <http://www.columbia.edu/acis/ets/CCREAD/etscc/kant.html>
- Katago, S. (2014). Hannah Arendt on the world. In P. Hayden (Ed.), *Hannah*

Arendt: Key concepts (pp.52-65). Durham: Acumen.

Keating, M. (1994). *The Earth Summit's agenda for change: A plain language version of Agenda 21 and the other Rio agreements*. Geneva: Centre for our Common Futures.

Keenan, A. (2003). *Democracy in question: Democratic openness in a time of political closure*. Stanford: Stanford University Press.

Keller, C. (1986). *From a broken web: Separation, sexism and self*. Boston: Beacon Press.

Kieniewicz, J. (2013, 24th October). *Art and science in creative collision* [Web blog post]. Retrieved 11.2.2015 from <http://blogs.plos.org/attheinterface/2013/10/24/art-and-science-in-creative-collision/>

Klein, N. (2015). *This changes everything: Capitalism vs. the climate*. London: Penguin.

Klein, N. [narrator and original book writer] and Lewis, A. [film writer and director] (2015). *This changes everything*. KleinLewis and Louverture Films Production: New York.

Koistinen, O. and Biro, J. (2002). *Spinoza: Metaphysical themes*. Oxford: Oxford University Press.

Kopnina, H. (2012). Education for sustainable development (ESD): The turn away from 'environment' in environmental education? *Environmental Education Research*, 18(5), 699-717. doi: 10.1080/13504622.2012.658028

Kuhn, L. (2005, 11-14 September). A critical reflection on the legitimacy of utilising a complexity approach in social inquiry. Paper presented at the *Complexity, Science and Society Conference*, Liverpool, UK.

Kuhn, L. (2008). Complexity and educational research: a critical reflection. *Educational Philosophy and Theory*, 40 (1), 177-189. doi 10.1111/j.1469-5812.2007.00398

Kuletz, V. (1998). *The tainted desert: Environmental and social ruin in the American West*. New York: Routledge.

Kurzweil, R. (2005). *The singularity is near: When humans transcend biology*. Viking Penguin: New York

Kurzweil, R. (2012). *How to create a mind: The secret of human thought revealed*. New York: Penguin Group.

- La Caze, M. (2014). Promising and forgiveness. In P. Hayden (Ed.), *Hannah Arendt: key concepts* (pp. 209-221). Durham: Acumen.
- Ladkin, D. (2008). Human wellbeing and the natural world. In J. Blewitt, J.(Ed.), *Community, empowerment and sustainable development* (pp.109-124). Dartington: Green Books.
- Lather, P. (2007). *Getting lost: Feminist efforts toward a double(d) science*. Albany, NY: State University of New York Press.
- Latour, B. (2004). Why has critique run out of steam? From matters of fact to matters of concern. *Critical Enquiry* 30, 225- 248. Retrieved 1.1.2017 from <http://www.unc.edu/clct/LatourCritique.pdf>
- Lawlor, L. and Moulard Leonard, V. (2016). Henri Bergson. In E.N. Zalta (Ed.), *The Stanford encyclopaedia of philosophy online* (Summer 2016 Edition). Retrieved 5.7.2016 from <http://plato.stanford.edu/entries/bergson/>
- Lawton, D. (1996). *Beyond the National Curriculum: Teacher professionalism and empowerment*. London: Hodder and Stoughton.
- Leal Fihlo, W. (Ed.) (2015). *Transformative approaches to sustainable development at Universities: Working across disciplines*. Cham, Switzerland: Springer International.
- Leavy, P. (2009). *Method meets art: Arts based research practice*. New York: Guilford Press.
- Levinas, E. (1999 [1974]). *Otherwise than being or beyond essence*. (A. Lingis Tr.). Pittsburgh: Duquesne University Press.
- Levinson, M. (2016). *Dilemmas of educational ethics: Cases and commentaries*. Cambridge, MA: Harvard Education Press.
- Lewis, C. D. (2014 [1956]). Walking away. In D. Slaney (Ed.), *Ten poems about fathers* (p. 9). Nottingham: Candlestick Press.
- Lingis, A. (1994). *The community of those who have nothing in common*. Bloomington: Indiana University Press.
- Lloyd, G. (1993). *The Man of Reason: 'Male' and 'Female' in Western Philosophy*, 2nd Edition. Routledge: London.
- Loidolt, S. (2016). Hannah Arendt's conception of actualized plurality. In D. Moran, & T. Szanto (Eds.) *Phenomenology of sociality: Discovering the 'we'* (pp.42-55). London: Routledge.

- Lyons, O. (1980). An Iroquois Perspective. In C. Vecsey & R.W.Venables (Eds.), *American Indian environments: Ecological issues in Native American history* (pp. 171-174). Syracuse University Press: New York.
- Lyvers, M. (1999). Who has subjectivity? *Psyche: An Interdisciplinary Journal of Research on Consciousness* 5 . Retrieved 3.2.2016 from http://epublications.bond.edu.au/hss_pubs/12
- Mallinder L. (2008). *Amnesty, human rights and political transitions: Bridging the peace and justice divide*. Oxford and Portland: Hart Publishing.
- Margolick, D (2011). *Elizabeth and Hazel: two women of Little Rock*. New Haven: Yale University Press.
- Mason, M. (2009). Making educational development and change sustainable: Insights from complexity theory. *International Journal of Educational Development* 29(2), 117-124. url: <http://repository.lib.eduhk.hk/jspui/handle/2260.2/4538>
- Masschelein, J. (2011). *Experimentum scholae: The world once more...but not (yet) finished*. *Studies in the Philosophy of Education*, 30(5), 529-535. doi: 10.1007/s11217-011-9257-4
- Masschelein, J. And Simons, M. (2013). *In defence of schools: A public issue*. Leuven: E-ducation, Culture and Society Publishers. Retrieved 3.2.2016 from <http://ppw.kuleuven.be/ecs/les/in-defence-of-the-school/masschelein-maarten-simons-in-defence-of-the.html>
- Massumi, B (2014). *What animals teach us about politics*. Durham, North Carolina: Duke University Press.
- Mastin, L. (2008). *The basics of philosophy: Western philosophy*. Retrieved 11.1.2017 from http://www.philosophybasics.com/general_western.html
- McMahon, M. (1997). From the ground up: Ecofeminism and ecological economics. *Ecological economics*, 20(2), 163-173. doi:10.1016/S0921-8009(96)00026-2
- Meadows, D., Meadows, G., Randers, J., & Behrens III, W., (1972). *The Limits to Growth*. New York: Universe Books.
- Medicinenet.com (2016). *Definition of transposition, genetics*. Retrieved 13.1.2017 from <http://www.medicinenet.com/script/main/art.asp?articlekey=19485>
- Mellor, M. (1992). *Breaking the Boundaries*. London: Virago.
- Mellor, M. (1997). Women, nature and the social construction of 'economic man'. *Ecological Economics*, 20(2), 129-140. doi:10.1016/S0921-8009(95)00100-X

- Merleau-Ponty, M. (1964 [1961]). Eye and mind. In J. Edie (Ed.), *The Primacy of Perception*. Evanston: Northwestern University Press. Retrieved 15.1.2017 from <https://pg2009.files.wordpress.com/2009/05/eye-and-mind-merleu-pontytmp-text1.pdf>
- Merchant, C. (1990). *The Death of nature: Women, ecology and scientific Revolution* (2nd Edition). San Francisco: Harper.
- Metzner, R. (1995). The Psychopathy of the Human-Nature Relationship. In T. Roszak, M.E. Gomes & A.D. Kanner (Eds.), *Ecopsychology* (pp. 55-76). San Francisco: Sierra Club Books.
- Mezirow, J. (2000). Learning to think like an adult: Core concepts of transformational theory. In J. Mezirow and Associates, *Learning as transformation: Critical perspectives on a theory in progress*. San Francisco: Jossey Bass.
- Mies, M. (2007). Patriarchy and accumulation on a world-scale revisited (keynote lecture at the Green Economics Institute, Reading 29 October 2005). *International Journal of Green Economics*, 19(3/4), 268-275. doi: 10.1504/IJGE.2007.013059
- Moore, D.W, Bhadelia R.A., Billings R.L., Fulwiler C., Heilman K.M., Rood K. M. J, & Gansler D. A. (2009). Hemispheric connectivity and the visual-spatial divergent-thinking component of creativity. *Brain and Cognition*, 70(3), 267-272. doi: 10.1016/j.bandc.2009.02.011
- Morrison, K. (2008). Educational philosophy and the challenge of complexity theory. *Educational Philosophy and Theory*, 40(1), 19-34. doi: 10.1111/j.1469-5812.2007.00394.x
- Mouffe, C. (2000). *Deliberative democracy or agonistic pluralism*. (Political science series). Institute for Advanced Studies, Vienna. Retrieved 2.12.2016 from https://www.ihs.ac.at/publications/pol/pw_72.pdf
- Mouffe, C. (2005). *The democratic paradox*. New York: Verso.
- Mouffe, C. (2007). Artistic activism and agonistic spaces. *Art and research: A journal of Ideas, contexts and methods*. 1(2): Online. Retrieved 9.9.2015 from <http://www.artandresearch.org.uk/v1n2/mouffe.html>
- Mouffe, C. (Online) Chantal Mouffe: Agonistic democracy and radical politics. *Pavilion: Journal for politics and culture*. Retrieved 9.9.2015 from <http://pavilionmagazine.org/chantal-mouffe-agonistic-democracy-and-radical-politics/>
- Mouffe, C. (2014). Democracy, human rights and cosmopolitanism: An agonistic approach. In C. Douzinas & C. Gearty (Eds.), *The meaning of rights: The philosophy and social theory of human rights* (pp. 181-192). Cambridge: Cambridge University Press.

- Mukherjea, A. & Bussolini, J. (2014, 2nd May). La Vie en commun: Cat yoga. *Democracy's Non-Human and Non-Living "Others" International workshop, CUNY Public Science*. Retrieved 8.11.2016 from <http://www.authorityresearch.net/participations-others-audio-recordings.html>
- Nambiar, P. & Sarabhai, K. (2015). Challenges that lie ahead for ESD. *Journal of Education for Sustainable Development*, 9(1), 1–3. doi: 10.1177/0973408215569108
- Natural England (2012). *Learning in the natural environment: Review of social and economic benefits and barriers* (NECR092). Retrieved 2.12.2016 from <http://publications.naturalengland.org.uk/publication/1321181>
- Natural England (2016). *Natural connections demonstration project, 2012-2016: Final report* (Natural England Commissioned Report NECR215). www.gov.uk/natural-england. Retrieved 22.11.2016 from <http://publications.naturalengland.org.uk/publication/6636651036540928>
- Nelson, J. (1997). Feminism, ecology and the philosophy of economics. *Ecological Economics*, 20(2), 155-162. doi:10.1016/S0921-8009(96)00025-0
- Nelson, J. (2003a). Once more with feeling: Feminist economics and the ontological question. *Feminist Economics*, 9(1), 109-118. doi: 10.1080/13545700110059261
- Nelson, J. (2003b). Confronting the science/value split: Notes on feminist economics institutionalism, pragmatism and process thought. *Cambridge Journal of Economics*, 27(1), 49-64. doi: 10.1093/cje/27.1.49
- Nelson, J. (2003c). Breaking the Dynamic of Control: A Feminist Approach to Economic Ethics. *Journal of Feminist Studies in Religion*, 19 (1), 27-45.
- Nelson, J. (2008). Economists, value judgements and climate change. *Ecological Economics* 65(3) 441-447. doi: 10.1016/j.ecolecon.2008.01.001
- Nelson, J. and Goodwin, N. (2005). *Teaching ecological and feminist economics in the principles course*, Global Development and Environment Institute Working Paper No. 05-05, Medford MA: Tufts University.
- Nelson, L.H. (1995). The very idea of a feminist epistemology. *Hypatia*, 10(3), 31-49. Retrieved 2.1.2017 from <http://www.jstor.org.lib.exeter.ac.uk/stable/3810236>

- Neslen, A. (2015, 8th October). Activists promise largest climate civil disobedience ever at Paris summit. *The Guardian*. Retrieved 14.11.2015 from <http://www.theguardian.com/environment/2015/oct/08/activists-promise-largest-climate-civil-disobedience-ever-at-paris-summit>
- Neslen, A. (2016, 17th November). UK ratifies Paris Climate Agreement. *The Guardian*. Retrieved 19/11/2016 from [ratifies-
phttps://www.theguardian.com/environment/2016/nov/17/uk-boris-johnson-arises-climate-agreement](https://www.theguardian.com/environment/2016/nov/17/uk-boris-johnson-arises-climate-agreement)
- Nuyen, A. T. (1995). The rhetoric of feminist writings. *Philosophy & Rhetoric*, 28(1), 69-82. url: <http://www.jstor.org/stable/40237838>
- O'Brien, C. & Howard, P. (2016). The living school: The emergence of a transformative sustainability education paradigm. *Journal of Education for Sustainable Development*, 10 (1), 115-130. doi:10.1177/0973408215625549
- Olssen, M. (2008). Foucault as complexity theorist: Overcoming the problems of classical philosophical analysis. *Educational Philosophy and Theory*, 40(1), 96-117. doi: 10.1111/j.1469-5812.2007.00406.x
- Onishi, B. (2011). Information, bodies, and Heidegger: Tracing visions of the posthuman. *Sophia*, 50(1), 101–112. doi: 10.1007/s11841-010-0214-4
- O'Riordan, T. and Lenton, T. (2013). *Addressing tipping points from a precarious future*. Oxford: Oxford University Press.
- Orr, D. (2004). *Earth in mind: On education, environment, and the human prospect* (Special Edition). Washington: Island Press.
- Osberg, D. (2005). *Curriculum, complexity and representation: Rethinking the epistemology of schooling through complexity theory*. [DoctoralThesis]. Open University.
- Osberg, D. (2012, 23rd October). *Authoritative knowledge and the public role of the university*. Invited seminar for the GSE's 2012/13 research seminar series, University of Exeter. Exeter.
- Osberg, D. (2015). Learning, complexity and emergent (irreversible) change. In E. Hargreaves (Ed.), *Sage handbook of learning* (pp. 23-40). London: Sage.
- Osberg, D. and Biesta G. (2007). Beyond presence: epistemological and pedagogical implications of 'strong' emergence. *Interchange*, 38(1), 31-51. doi: 10.1007/s10780-007-9014-3

- Osberg, D. and Biesta, G. (2008). The emergent curriculum: navigating a complex course between unguided learning and planned enculturation. *Journal of Curriculum Studies*, 40(3), 313-328. doi: 10.1080/00220270701610746
- Oxford Living Dictionaries: English, (Online). *Sustain*. Oxford Living Dictionaries: English. Retrieved 11.1.2017 from <https://en.oxforddictionaries.com/definition/sustain>
- Osler, M. (2005). Mechanical philosophy. *New dictionary of the history of ideas. Encyclopedia.com*. Retrieved 10.1.2016 from <http://www.encyclopedia.com>.
- Parekh, S. (2007). *Hannah Arendt and the challenge of modernity*. London: Routledge.
- Payne, P. (2010). Moral spaces, the struggle for an intergenerational environmental ethics and the social ecology of families: Another form of environmental education. *Environmental Education Research*, 16(2), 209-231. doi.org/10.1080/13504620903580545
- Pedersen, H. (2010). Is 'the posthuman' educable? On the convergence of educational philosophy, animal studies, and posthumanist theory. *Discourse: Studies in the Cultural Politics of Education*, 31(2), 237-250. doi: 10.1080/01596301003679750
- Pennac, D. (2010). *School blues* (S. Ardizzone, Tr.) London: MacLehose Press.
- PESGB (Online). Author interview. Jan Masschelein and Maarten Simons. *Philosophy of Education Society of Great Britain (PESGB)*. Retrieved 9.7.2016 from <http://www.philosophy-of-education.org/publications/author-interview-jan-masschelein-and-maarten-simons.html>
- Plumwood, V. (1993). *Feminism and the mastery of nature*. Routledge: London.
- Plumwood, V. (1995). Human vulnerability and the experience of being prey. *Quadrant*, 29(3), 29-34.
- Plumwood, V. (2001). *Environmental culture: The ecological crisis of reason*. London: Routledge.
- Poulton, J.L. (2014). Fairbairn and the philosophy of intersubjectivity. In Clarke, G.S. & Scharff, D.E. *Fairbairn and the object relations tradition* (pp. 431-444). London: Kernac Books.
- Prigogine, I. (1977). Biographical. *Nobelprize.org. The official site of the Nobel Prize*. Retrieved 11.2.2015 from http://www.nobelprize.org/nobel_prizes/chemistry/laureates/1977/prigogine-bio.html

- Prigogine, I. (1983). *The rediscovery of Time: A discourse originally prepared for the Isthmus Institute, presented to the American Academy of Religion*. Retrieved 23.2.2014 from <http://www.mountainman.com.au/ilyatime.htm> 23.2.2014
- Prigogine I. and Stengers, I. (1984). *Order out of chaos: Man's new dialogue with nature*. London: Heinemann.
- Prigogine, I. (1997). *The end of certainty. Time, chaos and the new laws of nature*. New York: The Free Press.
- Proust, M. (1983 [1913]). *Remembrance of things past (In search of lost time): Volume I - Swann's way & within a budding grove*. Harmondsworth: Penguin.
- Radford Ruether, R. (1996). *Women healing earth*. London: SCM Press.
- Rancière, J. (1991). *The ignorant schoolmaster: five lessons in intellectual emancipation (K. Ross Tr.)*. Redwood City, CA: Stanford University Press.
- Rancière J. (2001). Ten theses on politics (in English). *Theory & Event*. 5(3). Retrieved 10.9.2015 from http://0muse.jhu.edu.lib.exeter.ac.uk/journals/theory_and_event/democracy/
- Rancière J. (2010a). Who is the subject of the rights of man? In J. Rancière, *Dissensus: On politics and aesthetics* (pp.70-83). London: Continuum.
- Rancière, J. (2010b). On ignorant schoolmasters. In C. Bingam & G. Biesta with Jaques Rancière, *Jaques Ranciere: Education, truth, emancipation*. London: Continuum.
- Rancière, J. (2011). The thinking of dissensus: Politics and aesthetics. In Bowman, P.& Stamp, R. (Eds.) *Reading Rancière*. Continuum: London.
- Rancière, J. (2012). *Proletarian nights. Second Edition*. New York: Verso.
- Rancière, J., Guenoun, S.,Kavanagh, J. and Lapidus, R. (2000). Jaques Rancière: Literature, politics, aesthetics - approaches to democratic disagreement. *SubStance*, 29 (2), 3-24. doi: 10.2307/3685772
- Rebanks, J. (2015). *The Shepherd's Life: A Tale of the Lake District*. London: Allen Lane.
- Reid, A. (2002). Discussing the possibility of education for sustainable development, *Environmental Education Research*, 8 (1), 73-7. doi: 10.1080/13504620120109673

- Richardson, L. (1990). *Writing strategies: Reaching diverse audiences*. Qualitative research methods series 21. Sage: London.
- Richardson, L. (1994). Writing: A method of inquiry. In N. Denzin and Y. Lincoln (Eds.), *Handbook of qualitative research* (pp.515-529). Sage: Thousand Oaks.
- Richardson, L. (2002). Writing sociology. *Cultural Studies - Critical Methodologies*, 2(3), 414-422. doi: 10.1177/1463949116668097
- Sarkissian, W., Hofer, N., Shore, Y., Vajda, S., Wilkinson C., (2009). *Kitchen table sustainability*, London: Earthscan.
- Sauvé, L. (1996). Environmental education and sustainable development: A further appraisal. *Canadian Journal of Environmental Education*, 1, 7-34.
- Schaap A. (2011). Enacting the right to have rights: Jacques Rancière's critique of Hannah Arendt. *European Journal of Political Theory*, 10,1: 22-45. doi: 10.1177/1474885110386004.
- Semetsky, I. (2008). On the creative logic of education, or: Re-reading Dewey through the lens of complexity science. *Educational Philosophy and Theory*, 40(1), 83-95. doi: 10.1111/j.1469-5812.2007.00409.x
- Semetsky, I. and Masny, D. (2013). Introduction: Unfolding Deleuze. In Semetsky I. and Masny, D. (Eds.) *Deleuze and education* (pp.1-18). Edinburgh: Edinburgh University Press.
- Sherrer, N. ,Murphy T. (Online). *Probing the Relationship Between Native Americans and Ecology*. The University of Alabama. Retrieved 29.3.2016 from <http://www.bama.ua.edu/~joshua/archive/aug06/Nathan%20Sherrer.Pdf>
- Shiva, V. (1988). *Staying alive: Women, ecology and development*. London: Zed Books.
- Shiva, V. (2004). *Empowering Women*. Retrieved 20.1.2012 from http://www.bbc.co.uk/worldservice/trust/2015/story/2004/06/040609_van_dana_shiva.shtml
- Shiva, V. (2006). *Earth democracy: Justice, sustainability and peace*. London: Zed Books.
- Shults, F. L. (2003). Postfoundationalism. *Encyclopaedia of Science and Religion*. Retrieved 29.5.2016 from <http://www.encyclopedia.com/doc/1G2-3404200404.html>
- Simon, R. (2003). Innocence without naiveté, uprightness without stupidity: The

- Pedagogical Kavannah of Emanuel Levinas. *Studies in Philosophy and Education*, 22(1), 45–59. doi: 10.1023/A:1021185527365
- Smedes, L. B. (1996). *The art of forgiving*. New York: Random House.
- Soderbaum, P. (2008). *Understanding sustainability economics: Towards pluralism in economics*. London: Earthscan.
- Sontheimer, S. (Ed.) (1991). *Women and the environment: A reader; crisis and development in the third world*. London: Earthscan.
- Stables, A. (1996). Paradox in educational policy slogans: evaluating equal opportunities in subject choice. *British Journal of Educational Studies*, 44(2), 159-167. doi: 10.2307/3121729
- Stables, A. (2006). *Living and learning as semiotic engagement: A new theory of education*. Mellen Press: New York.
- Stables, A. and Gough, S. (2006). Toward and semiotic Theory of choice and of learning. *Education Theory*, 56(3), 271-285. doi: 10.1111/j.1741-5446.2006.00226.x
- Stables, A. and Scott, W. (2001). Post-humanist liberal pragmatism? Environmental education out of modernity. *Journal of Philosophy of Education*, 35(2), 269-279. doi:10.1111/1467-9752.00225
- Stables A. and Scott, W. (2002). The quest for holism in education for sustainable development. *Environmental Education Research*, 8(1), 53-60. doi: 10.1080/13504620120109655
- Sterling, S. (1996). Education in change. In J. Huckle & S. Sterling (Eds.) *Education for sustainable development* (pp. 18-39). London: Earthscan.
- Sterling, S. (2003). *Whole systems thinking as a basis for paradigm change in education: Explorations in the context of sustainability*. Retrieved 3.2.2012 from <http://www.bath.ac.uk/cree/sterling/sterlingthesis.pdf>
- Sterling, S. (2008). Sustainable education - towards a deep learning response to unsustainability. *Policy & Practice: A Development Education Review*. 6, Spring. Retrieved 7.1.2017 from <https://www.developmenteducationreview.com/issue/issue-6/sustainable-education-towards-deep-learning-response-unsustainability>
- Sterling, S. (2009, [2001]). *Sustainable Education: Re-visioning learning and change*. Dartington: Green Books Ltd for the Schumacher Society.
- Sterling, S. (2010a). Transformative Learning and Sustainability: sketching the

- conceptual ground. *Learning and Teaching in Higher Education* 5:17-33. Retrieved 7.1.2017 from http://www2.glos.ac.uk/offload/tli/lets/lathe/issue5/Lathe_5_S%20Sterling.pdf
- Sterling, S. (2010b). Living in the Earth: Towards an Education for our time. *Journal of Education for Sustainable Development*, 4(2), 213-218. doi: 10.1177/097340821000400208
- Sterling, S. (2012). The future-fit framework: An introductory guide to teaching and learning for sustainability in HE. HEA. Retrieved 7.12.2016 from https://www.heacademy.ac.uk/system/files/future_fit_270412_1435.pdf
- Sterling, S. (2016). A commentary on education and sustainable development goals. *Journal of Education for Sustainable Development*, 10(2), 208-213.
- Sterling, S., Maiteny, P., Irving D. & Salter, J. (2005). *Linkingthinking*. WWF Scotland. Retrieved 23.11.2016 from <http://assets.wwf.org.uk/downloads/linkingthinking.pdf>
- Sterritt, A. (2015, 21st August). Lubicon Lake First Nation using solar to power health centre: 'We can't just say no to the problem, we need to say yes to a solution,' says project organizer. *CBC News*. Retrieved 31.1.2016 from <http://www.cbc.ca/news/canada/edmonton/lubicon-lake-first-nation-using-solar-to-power-health-centre-1.3199688>
- Storey, D.E. (2012). Zen in Heidegger's way. *Journal of East-West Thought*, 2(4), 113-137.
- Strachan, G. (2009). Systems Thinking. In Stibbe, A. (Ed.) *The handbook of sustainability literacy: Skills for a changing world*. Dartington, Totnes: Green Books.
- Sund, P. and Greve Lysgaard, J. (2013). Reclaim "education" in environmental and sustainability education research. *Sustainability* 5, 1598-1616. doi:10.3390/su5041598
- Thompson, A.A. (2010). Walk on the wild side: teaching pragmatism, deep ecology and local exploration. *The Trumpeter*, 26(3), 61-78. Retrieved 7.1.2017 from <http://trumpeter.athabascau.ca/index.php/trumpet/article/viewFile/1196/1558>
- Tide Global Learning (2008). *The Holland report 10 years on*. Retrieved 12.11.2011 from <http://www.tidec.org/further-reading-reflections/holland-report-10-years>

- Timmermann Korsgaard, M. (2015, 8-11th November). *Education and the political: A defence of Arendt's crucial separation*. Conference paper presented at European Conference for Educational Research, Budapest.
- Topolski, A. (2011). The ethics and politics of *Teshuvah*: Lessons from Emmanuel Levinas and Hannah Arendt. *The University of Toronto Journal of Jewish Thought* 2. Retrieved 4.11.2015 from <http://tjtt.cjs.utoronto.ca/wp-content/uploads/2013/11/Anya-Topolski-The-Ethics-and-Politics-of-Teshuvah-Lessons-from-Emmanuel-Levinas-and-Hannah-Arendt-JJT-Vol.-2.pdf>
- Topolski, A. (2015). *Arendt, Levinas and a politics of relationality*. (Reframing the boundaries: Thinking the Political). London: Rowman & Littlefield International.
- Tremlett, G. (2006). *Ghosts of Spain: Travels through a country's hidden past* London: Faber and Faber Limited.
- Trueit, D.L. (2005). *Complexifying the poetic: Toward a poiesis of curriculum*. Retrieved 28.6.2016 from http://etd.lsu.edu/docs/available/etd-11152005-184410/unrestricted/Trueit_dis.pdf
- Tutu, D. (1999). *No future without forgiveness*. New York: Doubleday.
- UNESCO (2010). *Strategy for the second half of the Decade ESD*. Retrieved 12.11.12 from http://www.preventionweb.net/files/15341_unescostrategyfortheunitednationsde.pdf
- UNESCO (2013). *Education for sustainable development in the UK – current status, best practice and opportunities for the future*. Retrieved 10.12.2016 from <http://www.unesco.org.uk/publication/policy-brief-9-education-for-sustainable-development-esd-in-the-uk-current-status-best-practice-and-opportunities-for-the-future/>
- UNESCO (2014a). *Shaping the future we want. UN Decade of Education for Sustainable Development (2005-2015) final report*. Retrieved 15.1.2017 from <http://unesdoc.unesco.org/images/0023/002303/230302e.pdf>
- UNESCO (2014b). Roadmap for implementing the global action programme on education for sustainable development. Retrieved 22.11.2016 from <http://unesdoc.unesco.org/images/0023/002305/230514e.pdf>
- UNESCO (Online). Education for sustainable development. Retrieved 12.9,2016 from <http://www.unesco.org/new/en/education/themes/leading-the-%20international-agenda/education-for-sustainable-development/>

- UNESCO-UNEP (1976). *The Belgrade Charter*. Retrieved 27.2.2014 from <http://unesdoc.unesco.org/images/0002/000276/027608eb.pdf>
- UNESCO-UNEP (1987). Intergovernmental Conference on Environmental Education: –Tbilisi Declaration. Retrieved 27.2.2014 from <http://unesdoc.unesco.org/images/0003/000327/032763eo.pdf>
- United Nations (2000). *World development goals*. Retrieved 12.11.2011 from <http://www.un.org/millennium/declaration/ares552e.pdf>
- United Nations (2005). *World summit outcome document, 15 September 2005*. Retrieved 9.5.2011 from <http://www.who.int/hiv/universalaccess2010/worldsummit.pdf>
- United Nations (2012). *Rio20+ The Future we want: Outcome document*. Retrieved 23.6.2014 from <http://sustainabledevelopment.un.org/futurewewant.html>
- United Nations (2015). *The millennium development goals report*. Retrieved 10.11.2016 from [http://www.un.org/millenniumgoals/2015_MDG_Report/pdf/MDG%2015%20rev%20\(July%201\).pdf](http://www.un.org/millenniumgoals/2015_MDG_Report/pdf/MDG%2015%20rev%20(July%201).pdf)
- United Nations Conference on Environment and Development (UNCED) (1992). *The Rio Declaration on Environment and Development*. Rio de Janeiro: UNCED Secretariat.
- United Nations Conference on Climate Change: COP21. CMP 11 (2015). *COP21: The stakes*. Retrieved 12.1.2017 from [http://www.cop21.gouv.fr/en/learn/cest-quoi-la-cop21/cop21-the-stakes/United Nations Development Programme \(2015\). Millennium Development Goals](http://www.cop21.gouv.fr/en/learn/cest-quoi-la-cop21/cop21-the-stakes/United Nations Development Programme (2015). Millennium Development Goals). Retrieved 10.11.2016 from http://www.undp.org/content/undp/en/home/sdgooverview/mdg_goals.html
- United Nations Office for South-South Cooperation (2016). *Good practices in South-South and triangular cooperation for sustainable development*. Retrieved 30.11.2016 from [http://ssc.undp.org/content/dam/ssc/documents/elibrary%20docs/Good%20Practices%20SouthSouth%20and%20Triangular%20Cooperation%20for%20Sustainable%20Development\(1\).pdf](http://ssc.undp.org/content/dam/ssc/documents/elibrary%20docs/Good%20Practices%20SouthSouth%20and%20Triangular%20Cooperation%20for%20Sustainable%20Development(1).pdf)
- University of Brighton Centre for Learning and Teaching (2009). *Education for sustainable development Resources*. Retrieved 16.4.2010 from <http://staffcentral.brighton.ac.uk/clt/ESD/intro.html>
- Vannini, A. (2009). Interpretative theory. Littlejohn. In S. and Foss, K. *Encyclopaedia of communication theory* (Online). Retrieved 9.11.2014

from

<http://knowledge.sagepub.com/view/communicationtheory/n209.xml>

Vare, P. & Scott, W. (2007). Learning for a change: exploring the relationship between education and sustainable development. *Journal of Education for Sustainable Development*, 1(2), doi: 10.1177/097340820700100209

Vare, P. and Scott, W. (2008). *Education for sustainable development: Two sides of an edge - a 'thinkpiece'*. Retrieved 22.2.2010 from www.dea.org.uk/thinkpieces

Vaughan, M. (2007). Introduction: Henri Bergson's 'Creative Evolution'. *SubStance*, 36(3). doi: 10.1353/sub.2007.0051

Voice, P (2014). Labour, work and action. In P. Hayden. *Hannah Arendt: Key concepts* (pp.36-51). Durham: Acumen.

Waldow, F. (2008). Awkward knowledge: The German delegation to the International Examinations Inquiry. In M. Lawn (Ed.) *An Atlantic crossing: The work of the International Examination Inquiry* (pp.61-82). Oxford: Symposium Books.

Weil, K. (2008). Review of Derrida, Jacques, 'The animal that therefore I am'. *H-Animal, H-Net Reviews*, October. Retrieved 7.4.2016 from <http://www.h-net.org/reviews/showrev.php?id=22808>

Walsh, B.J., Karsh, M. B., & Ansell, N. (1994). Trees, forestry and the responsiveness of creation. *Cross Currents*, 44(2),149-163. Retrieved 8.1.2017 from <http://www.crosscurrents.org/trees.htm>

Willard, B. (2010). *Three Sustainability models*. Retrieved 12.9.2016 from <http://sustainabilityadvantage.com/2010/07/20/3-sustainability-models/>

Willis, R. (2014). Paris 2015: Getting a global agreement on climate change - A report by Christian Aid, Green Alliance, Greenpeace, RSPB, and WWF. London: Green Alliance. Retrieved 28.11.2015 from <http://www.greenalliance.org.uk/resources/Paris%202015-getting%20a%20global%20agreement%20on%20climate%20change.pdf>

Whitehead, A.N. (1929). *Process and reality: An essay in cosmology. Gifford Lectures delivered in the University of Edinburgh during the Session 1927– 1928*. Cambridge: Cambridge University Press.

Whitehead, A.N. (1968 [1938]). *Modes of thought*. New York: The Free Press.

- Woolfe, C. (2009). *Journal for Critical Animal Studies*, 9 (1/2), 235-241.
- Woolfe, C. (2010). *What is posthumanism?* Minneapolis: University of Minnesota Press.
- World Wildlife Fund Scotland (2005). *Linking thinking: New perspectives on thinking and learning for sustainability*. Aberfeldy: World Wildlife Fund Scotland. Retrieved 22.3.2014 from http://www.decd.sa.gov.au/efs/files/links/Linking_thinking_toolbox.pdf
- World Commission on Environment and Development (1987). *Our common futures* (Brundtland Report). Retrieved 10.11.2016 from <http://www.un-documents.net/our-common-future.pdf>
- Young-Bruehl, E. (1984). *Hannah Arendt: For love of the world*. New Haven: Yale University Press.
- Young-Bruehl, E. (2006). *Why Arendt matters*. New Haven: Yale University Press.