Young Children's Philosophical Thinking and Ancient Proto-Philosophy: A Study

This thesis is dedicated to my sons, Fiachra and Finnian O Cionnaith.

Young Children's Philosophical Thinking and Ancient Proto-Philosophy: A Study

Philomena Donnelly

A thesis submitted in fulfilment of the requirement for the degree of Doctor of Philosophy, Joint Faculty of Education, St. Patrick's College, Dublin City University

External Supervisor:
Professor Kieran Egan,
Simon Fraser University,
Burnaby, B.C. Canada

Internal Supervisor:
Dr. Joseph Dunne,
St. Patrick's College,
Drumcondra, Dublin 9

Declaration

I hereby certify that this material, which I now submit for assessment on the programme of study leading to the award of Doctor of Philosophy is entirely my own work and has not been taken from the work of others save and to the extent that such work has been cited and acknowledged within the text of my own work.

Signed: _____ (Candidate)

Philomena Donnelly (Student ID:00100710)

Date: _16th August 05_

Table of Contents

List of Figures

* Image on title page 'Thales' (www.ysee.gr/html/zt_thales.html)

Acknowledgments

I would like to express my deep appreciation and thanks to my supervisors, Professor Kieran Egan and Dr. Joseph Dunne. It was their publications and teaching that inspired the work in the first instance. Their support, guidance, advice and patience have been invaluable in enabling me develop the ideas in the thesis and to bring the work to completion. I am privileged to have had two such eminent academics as supervisors. Kieran Egan's publications have been for many years a source of inspiration and have offered an alternative to many current classroom practices. It has been an honour to work with him and I am grateful for his detailed and valuable feedback as the thesis evolved. Joseph Dunne has been a critical friend to my practice for over a decade; without him, 'Thinking Time' would never have happened. Joe's teaching has been the greatest inspiration of my working life. I am privileged to have him as a colleague and thesis supervisor.

I wish to express my thanks to the children and teachers who so willingly participated in the research and whose richness of thought provided me with a very fertile resource of research material; my warm appreciation to the members of the ATPC with whom I have shared many conversations over the past decade and without their hard work and dedication 'Thinking Time' would never have evolved. I would also like to express my indebtedness posthumously to the natural philosophers of Ionian, in particular Thales, Anaximander, Anaximenes and Xenophanes.

Two colleagues, Marian Lyons and Mary Shine Thompson were central in sustaining me over the past four and a half years through their assistance and encouragement. I have learned a great deal from Marian's editing skills and am very grateful for her willingness to read and re-read drafts of chapters. Mary, as Director of Research in St. Patrick's College, is renowned for the personal interest she takes in research students. I, as a colleague and as a research student, am grateful for the generosity with which she gave of her

Abstract

'All men have opinions, but few think' wrote the eighteenth-century Irish philosopher, George Berkerley (Barnes, 1987, p.24). This thesis adds a distinctive voice to educational research by investigating young children's actual and potential ability to think philosophically. It is distinctive for two reasons. Firstly, the research focuses on the innovative pedagogical practice called 'Thinking Time'. Secondly, it relates this practice to the work of the early Ionian philosophers, Thales, Anaximander, Anaximenes and Xenophanes, to find instructive parallels between children's thoughts and those of these philosophers.

The thesis explores the thinking of the Ionian philosophers and the myths from which it emerged through a range of primary and secondary sources. And it accesses young children's thinking through generating transcripts of taped sessions of 'Thinking Time' which it analyses in the light of a discussion of the works of some pertinent educational theorists. The thinking of the children is brought in concert with the thoughts of the first natural philosophers in Western society to illuminate the practice of 'Thinking Time'. The import of the study for wider policy and practice in the area of early childhood education is highlighted.

Introduction

The main body of this thesis consists of focused analyses of two quite distinct domains: first, children's thinking exemplified in and facilitated by 'Thinking Time', a practice established in some Irish primary schools since the late 1980s; and, second, the thinking of a selected group of Ionian philosophers who, by scholarly consensus, .played a decisive role in inaugurating western philosophy. The aim of conducting these analyses is to explore and provide some grounds for testing, the hypothesis that significant parallels can be established between the children's thinking and that of the early philosophers.

In this Introduction I will first clarify the substance of this hypothesis by providing a brief outline of Thinking Time, a preliminary characterisation of the work of the selected early philosophers, and an indication of the kind of 'parallels' that are to be investigated. Second, I will indicate how and why the hypothesis initially came to seem plausible. Third, I will offer a preliminary account of how it is proposed to 'explore' and 'test' it − and of the key questions that are to be addressed by doing so. Fourth, I shall indicate why the hypothesis seems *worth* exploring − why the parallels, *if established*, may be considered significant, or why the thesis may prove a valuable, if modest, contribution to scholarship. The Introduction will conclude with a brief preview of the content and sequence (chapter by chapter) of the study.

1. 'Thinking Time' is a practice in Irish primary schools that has been inspired by, though not exactly modelled on, the work of Matthew Lipman, who pioneered a programme of philosophy for children in elementary schools in the US, and of Gareth Matthews whose writings provide theoretical support for this programme; Thinking Time has also been influenced by wider social constructivist perspectives on thinking and education. This practice involves children and their teacher discussing topics of some philosophical significance, usually chosen or suggested by the children themselves, in a weekly session lasting approximately half an hour. While it has some basic ground rules, Thinking Time seeks to provide a freer space for the children to express, explore and develop their thinking than would be available within the format

of a specific curricular subject and a more teacher-centred style of pedagogy. Introduced informally into primary schools about sixteen years ago, Thinking Time has since come to have a significant if modest presence in Irish primary education, encouraged by some school Principals and Boards of Management and supported by some school inspectors. It has been disseminated and developed through in-service courses, M.Ed modules, and informal networks of teachers, and a professional association (The Association of Teachers for Philosophy with Children, ATPC), funded by the Department of Education and Science, that has sponsored regular meetings and courses for interested teachers and promoted and published research in its journal, *Arista*.

As I worked with young children on Thinking Time over many years, I was struck by their keen interest in natural phenomena and ethical matters and became increasingly aware that these were also the main subjects of pre-Socratic philosophy. This refers to the work of a group of thinkers who lived in Ionia from 625 BCE onwards and who are generally regarded as the first thinkers in the western tradition to qualify as 'philosophers'; because of their preoccupation with natural phenomena they are more generally known as the 'natural' philosophers. Long neglected because of the paucity of manuscript sources, their work has attracted renewed scholarly interest over the past few decades. And it has also come to have more *philosophical* significance, largely because of the positive role assigned to it in a recent, wide-ranging reconceptualisation and critique of western rationality, associated particularly with Martin Heidegger and inspired also by the earlier work of Friedrich Nietzsche.

2. Arising from my classroom experiences with Thinking Time and my initial reading of pre-Socratic philosophers, I began to wonder if illuminating connections might not be drawn between these two, admittedly very disparate, domains. My inchoate question was whether children's thinking about natural phenomena – that seemed to have some *prima facie* claim to be considered philosophical – could be shown to have affinities with the spirit and practice of the thinkers who are acknowledged as the first 'philosophers' in the western tradition. This surmise, which prompted the

enquiry undertaken in this thesis, did not imply that the pre-Socratics could be equated with children or that their thinking was childlike. Nor was it informed by prior commitment to any recapitulationist thesis whereby stages of development in an individual human being (ontogenesis) are taken to replicate significant stages of cultural evolution (phylogenesis). Rather, the question was given substance – or a connection here was rendered plausible – by a few features that impressed me in listening to children and that seemed to be echoed in my as yet rudimentary sense of the pre-Socratic philosophical project.

I was conscious first of all of a very strong wonder in the children – an openness that was at the same time a kind of captivation or fascination by elementary phenomena of the cosmos. And I became aware of a similar enthusiasm being attributed to the pre-Socratics – a kind of astonishment, even awe, that could be seen indeed as naive but also as passing over, in them, into philosophical speculation. This speculation seemed to be characterised by extroversion, a capacity to be seized and moved by environmental or cosmological phenomena – so that only later, with Socrates, did anthropological (including ethical and political) issues come more clearly into focus. As it evolved, this speculation developed its own moves and strategies that can be reconstructed analytically and that give it a claim to be called rational. But rational procedures had not yet been crystallized with anything like the degree of explicitness or precision that, for example, Aristotle would later give to his formulation of syllogistic argumentation or that, later again, would be enshrined in the methodologies of the new modern sciences. And so, in these earlier thinkers there is a lot of more open, creative conjecture or - again in the later, more reflectively analytical categories of Aristotle – a relatively free movement between 'mythos' and 'logos', or a gradual emergence of the latter out of the former.

In my work with children in junior classes (four-to-six years), I had become aware of the strength of their interest in natural phenomena. And I was aware, too, that in the younger children what might be called 'rational' or 'logical' ways of thinking were not securely established as such but rather were mixed with other ways of thinking which could be called metaphorical, 'poetic' or, to use Kieran Egan's term

(1997), 'mythic'. It was this awareness of what seemed interesting convergences between children's thinking as I had had the opportunity to reflect on it and pre-Socratic philosophy, in the impression I had formed from my initial exposure to it, that led me to carry out the more systematic enquiry that is pursued in this thesis.

3.   To translate my initial conjecture into a hypothesis that could be the subject of such a systematic enquiry I needed to work simultaneously on two fronts. First, I needed to conduct fieldwork in junior classes in order to gather data on Thinking Time sessions. A junior infant, senior infant and first class (comprising, in all, seventy-eight children) were selected to conduct, with their teachers, Thinking Time sessions on topics selected strategically for their consonance with prominent themes in pre-Socratic philosophy. Two topics were chosen on each of four themes, origins, meteorology, cosmology and ethics. (Ethics is used here in a broad sense covering concepts such as 'good' and 'true' that feature in basic binary oppositions in the children's and the early philosophers' thinking about both cosmological and anthropological issues - when these are as yet relatively undifferentiated from each other.)

Eight Thinking Time sessions (two on each selected theme) were conducted with each of the three classes, giving a total of twenty-four sessions. All these sessions were audio taped and transcribed to form a substantial body of textual data. A preliminary analysis of a quantitative nature was conducted, using ten pre-constructed categories in terms of which the total aggregate of utterances throughout the twenty-four sessions were classified; the results of this analysis are intended to offer an overview of the data, highlighting a number of significant features. The main analysis however, is more inductive; it consists of interpretative re-construction of patterns of thinking and response in the transcripts, governed by methodological norms that are explained in Chapter four.

The second 'front' on which I needed to work entailed a focused interpretation and review of the thought of the selected Ionian philosophers, Thales, Anaximander, Anaximenes and Xenophanes. In doing this I relied on fragments and testimonia as

4

primary evidence, sourcing these through scholarly translations and commentaries. And the interpretation aimed to bring to the fore their theories about the same four themes that structure the subject-matter for the children's discussions, with a focus on the content of these theories, the kinds of thinking they exemplify, and the broad spirit or ethos that informs them.

Analysis of two very disparate bodies of primary source material, then, are presented and juxtaposed in successive chapters that form the main substance of this study. This is done with a view to filling out the hypothesis announced at the beginning of this introduction and providing the kind of material that is necessary for testing it. This 'filling out' and 'testing' should enable clearer and fuller answers to be given to the following questions: Are there meaningful parallels between the thinking of the selected proto-philosophers and the selected children on natural phenomena and ethics? If so, what are these parallels and how do they illuminate the nature of Thinking Time? In particular, do they provide valuable evidence for answering another question 'Can Thinking Time be validly characterised as a philosophical process?' Important pointers to answers to these questions will emerge in the course of the second analysis – i.e. that of the Thinking Time scripts – in which, just because it is second, some cross-reference can be made to the earlier analysis of the proto-philosophers. These accumulating pointers will be brought together more systematically, however, and the questions will be addressed more frontally in the concluding chapter. While it is hoped that valuable insights will be gleaned throughout the course of the two analyses, the intention of the thesis is to provide reasonably clear and evidentially based answers to these central questions.

4.   Why did I consider it worth undertaking this two-pronged inquiry - or what significance, relative to contemporary educational theory and practice, can be claimed for it? Primarily and most proximately, it is intended to add to our understanding of Thinking Time as an educational practice and of the kind of thinking that children exhibit in and through it. Second, the particular way in which this greater understanding is pursued – i.e. by reference to ancient proto-philosophy – is intended

to contribute to clarification of and debate about the wider movement of which Thinking Time forms a part, i.e. Philosophy for Children. Within this movement there have been various ways of making the claim that children's thinking, in some of its manifestations and as variously facilitated or fostered by competent adults, qualifies as 'philosophical' (Matthews, 1984; Lipman, 1982, etc.). And from outside the movement, this claim has been contested – the implausibility of attributing any properly philosophical qualities or skills to children has been asserted (White, 2001). Among those who might be considered as belonging to or in sympathy with this movement, no study has been conducted to explore possible connections between children as philosophers and the first recorded philosophers of ancient Greece. In doing this, then, the present study opens up a fresh vista on this debated question: it offers a new way of understanding and substantiating the claim that children can think philosophically.

A secondary contribution of the study also deserves mention. Since much of the inquiry focuses on children in the first three years of primary schooling, its broader context falls within the field of early childhood education. With respect to this wider field, two aspects of the present study are claimed to have some significance. The first is related to the contemporary tendency whereby disciplines that jealously guarded their boundaries, or cultures that previously were separate and aloof, find enrichment through encountering each other, as in the realities of interdisciplinarity or interculturalism. To be sure, such encounters might be superficial or distorting. But that they *can* be genuinely illuminating and enriching – when they achieve what Gadamer (1975) calls a 'fusion of horizons' - is a main tenet of philosophical hermeneutics. It is in accord, then, with this general hermeneutical claim that any cultural domain or field of discourse is potentially enriched when connections are opened up between it and some other – perhaps, at first sight, quite dissimilar or eccentric - field that I claim some value for the encounter conducted in this study between early childhood education and ancient philosophy. While I believe that this encounter is conducted responsibly I make only a modest claim for what it achieves substantively. Clearly, if early childhood education is to gain significant enlightenment from encounters with ancient philosophy, or cultural history, a great deal more research and scholarship is needed. But the present study is valuable in

taking at least a small step in this fruitful direction – a direction, it may be noted, that has already been charted in some of Kieran Egan's work (1991, 1997).

The second aspect of the contribution that this study makes to early childhood education is more straightforward. In broad thrust, it has implications for curriculum, pedagogy and assessment. It lends support to some existing or emerging policies and priorities in early years education and confirms a good deal of other theoretical work in the field. (By implication of course it also *contests* some other approaches both in practice and theory: it does not claim to be neutral – only that if its arguments are partisan they are also clear, explicit and cogent). Much of this has to do with our expectations of children with respect to 'abstract' thinking and will emerge at several points in the study.

5. Finally, in this Introduction I offer a brief preview of the contents of this thesis. Chapter one sets the context for the study by providing an overview of early childhood education in Ireland and then explaining the background and process of Thinking Time. With a brief discussion of the question 'What is philosophy?', it introduces and reviews Matthew Lipman's Philosophy for Children (1974) programme and some other 'critical thinking' programmes with which it is sometimes related; it does this in order to identify, by comparison and contrast, the particular character of 'Thinking Time'. The wider theoretical perspective that frames Thinking Time, and informs the main analysis of children's thinking in chapter six of the study, is that of social constructivism; the chapter concludes by outlining this perspective with reference to the work of Lev Vygotsky, Gareth Matthews, Kieran Egan, Margaret Donaldson, Paulo Freire and Jean Piaget.

Chapter two considers the context from which natural philosophy emerged. Prior to the era of the natural philosophers of Ionia (625- 428 BCE) the world and the universe, so far as we can tell, were understood within a mythic framework. The subject of many world myths is similar to the philosophical content considered by the natural philosophers. However, there are significant differences in approach, and to understand the transformation that took place in human thought with the emergence

of natural philosophy, myth and its role in society are reviewed and some origin myths from other parts of the world are presented. The relevance of myth to the beginning of philosophy is explored and a brief review of the role of story, including fairy stories, in assisting children's thinking, not least in Thinking Time, draws the chapter to a close.

Chapter three focuses on the world and thought of the natural philosophers. Their social and political milieu is described with an emphasis on the city-states as generating new fora for reasoned speech. The work of the four Ionian philosophers, Thales, Anaximander, Anaximenes and Xenophanes, is considered, by reference to the four themes discussed during the children's Thinking Time sessions, namely origin, meteorology, cosmology and ethics. The chapter concludes with a brief overview of how philosophy moved west to Athens and highlights the significance of Socrates in, as it were, closing this first adventure of western thought by bringing philosophy in a new, quite different direction.

Chapter four outlines the measures adopted for the classroom-based fieldwork, justifies the procedures adopted to conduct the research and offers a rationale for the quantitative analysis in chapter five and the qualitative, interpretative reading of the data provided in chapter six. This latter method takes a narrative approach and its particular appropriateness for this study is explained. Sample data to illustrate the kind of approaches to quantitative and qualitative interpretation used in the chapters five and six are presented.

Chapter five features a preliminary analysis of the Thinking Time scripts, using the pre-constructed analytical categories. It offers a preliminary schematic analysis of the twenty-four Thinking Time scripts and includes charts to illustrate the total of contributions for *all* three classes on each topic, the totals of contributions for *each* class on each topic, the frequency of incidences of the pre-constructed categories for *all* classes and finally the frequency of incidences of the pre-constructed categories for *each* class.

Chapter six constitutes the major part of this thesis, presenting summary narratives for all twenty-four Thinking Time sessions. This is considered necessary in order to capture the more fine-grained particularity of each session and to delineate in detail the patterns of thinking jointly enacted by the children in the group. The narrative analysis is organised for each of the three classes of children under the four themes outlined above. A random selection of the children's drawings on the themes is also presented.

Chapter seven brings together the main findings of the central chapters on the two foci of the study: the thinking in ancient proto-philosophy and the children's thinking in the Thinking Time sessions. It presents synoptically the evidence gathered from the earlier analyses relevant to the overall hypothesis that the study set out to explore. Based on this evidence, it argues that there are indeed illuminating parallels to be drawn between the ancient natural philosophers and the contemporary children. And on the basis of this argument, it concludes – amplifying the point by reference to Aristotle's evaluation of the natural philosophers – that children's thinking as revealed in Thinking Time sessions can indeed be regarded as philosophical. It then draws some summary implications from this conclusion both for the wider movement of Philosophy for Children and for teaching and learning in the context of early childhood education.

An appendix to the thesis includes transcripts of all twenty-four of the children's dialogues (Appendix 1-3) and a sample of three coded transcripts – one for each class (Appendix 4).

Chapter 1:
Educational Background and Context

1.1 Introduction

This thesis is focused on a pedagogical innovation, namely children's engagement with philosophy in the early years of primary school. The research is based in schools in the Republic of Ireland and to give a context for the work early childhood education in Ireland is reviewed with a particular emphasis on aspects of the curriculum significant to the research. Thinking Time, the name given to the specific process of doing philosophy with children, is explained and reviewed in relation to the Philosophy for Children and Thinking Skills programmes. However, not all are agreed about the feasibility of children engaging with philosophy and some of these concerns are acknowledged. There is an important distinction to be drawn between children's participation in philosophy, or what will be argued is natural philosophy on the one hand, and academic philosophy on the other. However, all philosophy, in order to be called philosophy, must have a common element. The question, 'What is philosophy?' is therefore briefly discussed. Thinking Time has emerged from a history where educationalists advocated that children be viewed as co-learners and an example from the work of J.H. Pestalozzi is given to illustrate this. The critical theories of Rex Gibson, Henry A. Giroux and Peter McLaren are cited as underpinning the democratic values informing dialogical practice in school. The educational theories on children's thinking will be considered with particular concentration on the work of Lev Vygotsky, Gareth Matthews, Kieran Egan, Margaret Donaldson and Paulo Freire as they represent in a broad way a social constructivist approach to education. Such an approach complements the research paradigm outlined in chapter four, focusing on naturalistic settings with the emphasis on process, argument and a collective search for understanding. The theories of Jean Piaget, which still dominate many approaches and curricula in primary schools, are reviewed alongside Lev Vygotsky's understanding of children's thinking.

1.2 Early Childhood Education in Ireland

Early childhood, and in particular early childhood education, is now high on the agenda of many governments throughout the world. This priority reflects societies' organisation of human life and recognises that for a growing number of young children especially in western societies, being cared for outside the family home is now a social reality. This social shift over the past fifty or sixty years has implications for the settings in which children spend considerable amounts of time and which influence their learning and thinking. Early childhood is defined, by the OECD (2001), as from birth to eight years of age. In western societies the care and education of young children has taken on a new impetus with an increasing number of parents and mothers in particular being in paid employment. In Ireland, forty-nine percent of four-year-olds and ninety-nine percent of five-year-olds attend primary school. Increasingly qualifications in terms of courses including graduate and post graduate degree courses are being offered for those wishing to work with young children. While the focus on young children is welcome, none the less there is a concern that some negative effects of schooling will be visited upon the young. An example of this in western countries, including Britain and the Republic of Ireland is the emphasis on a curriculum for children aged between three and six years in which 'developmentally appropriate' content dominates. The National Council for Curriculum and Assessment (NCCA) in the Republic of Ireland has published a consultative document, *Towards a Framework for Early Learning* (2004), for the education of three to six year old children in which developmentally appropriate is defined:

> Activities are developmentally appropriate when they
> reflect a child's particular age and stage of development
> (2004, p.2).

The phrase 'developmentally appropriate' needs to be defined to clarify and elevate concerns like those expressed by Burman and Egan and discussed later in this chapter. The concerns are based on the claim that children's thinking is insidiously dominated by Piagetian theories and that 'developmentally appropriate' is interpreted in terms of age-related stages of learning.

The *Irish Primary School Curriculum* was revised by the National Council for Curriculum and Assessment and published in twenty-three documents in 1999. What follows is a brief critique of some selected aspects of this Curriculum relevant to the context of adopting philosophy with children in schools and sets the context for the classroom-based research that forms the basis of this thesis. Some principles and aims in the revised Curriculum are facilitating towards the practice of Thinking Time while certain recommendations of content seem to contradict the idea of involving young children in philosophical thinking. Six of the fifteen principles named in the introduction directly address issues relating to the cognitive development of children:

- The child's sense of wonder and natural curiosity is a primary motivating factor in learning
- The child's immediate environment provides the context for learning
- Language is central in the learning process
- Skills that facilitate the transfer of learning should be fostered
- Higher-order thinking and problem solving skills should be developed
- Collaborative learning should feature in the learning process (1999, p.8).

There is a potential contradiction inherent in these selected principles when they are put into practice. The problem is that the underlying principles that presume children can deal only with the local are tied to other presumptions about 'natural' restrictions on children's ability to engage in higher order thinking activities. While it encourages higher-order thinking skills, the Curriculum infers that the child's immediate environment is the context for learning. The Irish curriculum defines this concept of the environment from a very Piagetian base, declaring that 'this will be centred in the home at first…it will be extended to include the immediate environment and the school and as the child matures will encompass an ever widening context' (1999, p.15). Higher-order thinking skills are defined in the following terms:

> In the curriculum the child is encouraged to observe, collate and evaluate evidence, to ask relevant

questions, to identify essential information, to recognise the essence of a problem, to suggest solutions, and to make informed judgements. These activities help to foster the higher-order thinking skills, such as summarising, analysing, making inferences and deductions and interpreting figurative language and imagery (1999, p.16).

These skills are very important in problem solving and in thinking but the curriculum manifestly fails to transcend the particular skills and to view them generically as abstract thinking. The latter is more inclusive than higher-order thinking skills as will be argued in this chapter. This failure to present the role of the abstract in teaching and learning is reflected in some curriculum content that emphasises the immediate and the concrete for younger children and the more complex for older primary school children. For example, the following are the recommendations on oral language for children aged four to six years:

- Discuss simple possible solutions to simple problems
- Ask questions in order to satisfy curiosity about the world

It is certainly encouraging to have children's questions about the world included and named as part of an oral language curriculum. However, the potential within the content is somewhat undermined by the inclusion of a list of possible questions to be posed by the teacher to children aged four to six years (1999, p.20). With the exception of the speculative 'what if' category, all other questions listed are functional, closed questions implying 'right answers'. At the other end of the primary system the following are the recommendations for eleven to twelve-year old children:

- Discuss issues of major concern
- Discuss ideas and concepts encountered in other areas of the curriculum
- Use a discussion of the familiar as the basis of a more formal or objective grasp of a topic or concept
- Argue points of view from the perspective of agreement and disagreement through informal discussion and in the context of formal debates
- Justify and defend particular opinions or attitudes and try to persuade others to support a particular point of view
- Respond to arguments presented by the teacher

- Discuss the value, truth or relevance of popular ideas, causes and proverbs (1999, p.53)

The use of the word 'major' contrasts with the term 'simple' as applied to the tasks for younger children. Added to this is the recommendation of using the familiar as a basis for discussion to lead to a more formal grasp of a concept. This presumably refers to abstract thinking but the inclusion of such thinking for the eleven and twelve year old children and its exclusion for children younger than this age group can be interpreted as stemming from a classically Piagetian understanding of what constitutes 'developmentally appropriate'.

The *Primary Curriculum* emphasises the importance of oral language and in its recommendations to teachers, it is strong and even radical in its aspirations:

> The teacher acts as facilitator and mentor, helping the children to be explicit in what they say through modelling responses, thinking aloud, questioning, prompting, clarifying and extending vocabulary (1999, p.39).

There is much to be applauded in the *Irish Primary Curriculum* (1999), which is acknowledged by teachers and parents as a child-friendly and a caring curriculum and with explicit democratic values. It is a liberal curriculum with many high aspirations but regrettably it fails to deal with fundamental contradictions between content, pedagogy and psychological understanding of children's thinking.

Schools are part of the social, cultural and historic construct in which they operate. Lev Vygotsky regards education and schooling as central to cognitive development and thus considers the capacity to teach and to learn a fundamental human attribute. Development is central to a social constructive approach and Jerome Bruner, in his introduction to the English version of Vygotsky's *Collected Works* (1987), comments:

> When I wrote a quarter century ago that Vygotsky's view of development was also a theory of education, I

did not realise the half of it. In fact, his educational theory is a theory of cultural transmission as well as a theory of development. For 'education' implies for Vygotsky not only the development of the individual's potential, but the historical expression and growth of the human culture from which Man springs (1987, pp.1-2).

It is a conscious awareness of everyday concepts interacting with curricula concepts that meaning is brought to the teaching-learning dialogue. Neo-Vygotskians like Ronald Gallimore and Roland Tharp (1991) and Michael Cole (1985) are critical of general school practice. Writing in Moll's *Vygotsky and Education,* Tharp and Gallimore make the bold and probably over-generalised remark that little teaching occurs in schools (1993, p.188). It is easy to lay the blame for what happens in schools on teachers without critically analysing the content of programmes for student teachers. In order that teachers might become comfortable with and expert in encouraging children in meaning making, they need to experience processes such as Thinking Time and become conscious of and educated in the differences between alternative views on how children's thinking develops.

In essence philosophy is about encouraging questions, reflecting and forming concepts. Good practice in schools also does this. As a precursor to introducing philosophical thinking into schools, advocated by Matthew Lipman and others, an understanding of how children think and their capacity to deal with philosophical questions is needed. In this thesis, it is argued from a social constructivist stance that children have the capacity to engage in philosophical dialogue. The limitations and strengths of the *Irish Primary Curriculum* in facilitating such processes as Thinking Time have been noted and it is acknowledged that it is within this system of primary education that the research was freely conducted.

1.3 Thinking Time, Philosophy for Children and Thinking Skills Programmes

Matthew Lipman, a former professor of philosophy at Columbia University, in 1974 founded the Institute for the Advancement of Philosophy for Children

16

(IAPC) at Montclair University in the USA. He had become frustrated at the lack of critical thinking by his university students and together with Ann Margaret Sharp and other colleagues, he wrote a philosophy curriculum for children ranging from three to sixteen years of age. Stories based on philosophical themes were constructed as the stimulus for discussion. The stories bear the names of children, *Elfie, Kio* and *Gus, Pixie, Harry, Lisa, Suki* and *Mark.* The story for the three to six year-old children is *Doll's Hospital.* Children along with their teacher read a section of the story. The children are then invited to comment on aspects of the story they find interesting or puzzling. Their comments and questions are written on a blackboard alongside the name of the contributor. The programme provides handbooks with suggested questions and ideas related to the story to assist teachers in guiding the discussion. Unlike thinking skills programmes that reduce thinking to the acquisition of skills only, Lipman considers thinking is best developed through disciplined discussion, in a community of enquiry. He therefore laments the fact that in the current conventional education system:

> We do not sufficiently encourage [the child] to think for himself, to form independent judgements, to be proud of his personal insights, to be proud of having a point of view he can call his own, to be pleased with his prowess in reasoning (1982, p.35).

Lipman argues that if children are to become reflective adults, they must be encouraged to be reflective children. He is also clear on the need for teachers to be educated in the facilitation of philosophical discussion and, to that end, full-time courses are offered at Montclair University.

Since the early 1990s, there have been a number of research studies into the benefits of philosophy for children and some of the main findings include the following; Philosophy for Children works best when teachers feel motivated, supported and trained (Jackson 1993), the benefits accrue over time (Palsson 1994, 1996), and enquiry formats have positive effects on the quality of thinking, in particular 'dialogical, dialectical and argumentative' reasoning (Santi 1993). It is also claimed that the programme is effective in the teaching of democratic

community values (Raitz 1992), that it has a positive effect in improving the self-esteem of students (Kite 1991, Sasseville 1994), that it develops children's abilities in creative thinking (Kite 1991), that it can assist students obtain higher achievement scores in English and Mathematics (Williams 1993, Lin 1994), and that it benefits from curriculum extension through the use of culturally modified and curriculum relevant materials (Davies 1994, Holder 1994) (in Fisher 2003, p.198).

The IAPC programme has followers in many countries throughout the world particularly in South America. Some teachers have found the lack of literary technique in the stories problematic and have replaced them with traditional stories and stories from literature written for children. The other difficulty with the programme has been the prohibitive size of the teachers' manuals, some running to several hundred pages. However, Lipman's and Sharp's initiative in promoting philosophy in schools has been the stimulus for such innovations as Thinking Time and also stands as a counter-measure to many of the thinking skills programmes which are currently available and enjoy much media publicity as offering quick and simple approaches to thinking.

Thinking Time is the focus for this thesis and while being inspired by the work of the Philosophy for Children Movement, my colleagues and myself were reluctant to adopt the USA model in Ireland for a number of educational and cultural reasons. In the 1980s Irish primary education was immersed in a glut of market driven workbooks which children were 'filling up' and which were determining a lot of classroom teaching. To counter act this, many teachers acted to limit the number of workbooks and teacher handbooks entering their classrooms. Thus, Lipman's weighty handbook for the philosophy for children programme, while considered useful, was discarded. It was also felt to be of pedagogical importance to begin with the children's questions and the topics and concepts in which they expressed interest. This has proved more demanding on teachers because they are left open or exposed with their class of children, the topic or question and themselves. Such facilitating or Socratic teaching taxes the professional resources and confidence of even the most experienced teachers. However, it is argued in this thesis that this, along with other styles of teaching in

the classroom context, is purposeful and enriching for both children and teacher. Although another difficulty was cultural differences in the language used in the stories, there are a number of Irish teachers who have adapted the Lipman programme and have used it with their classes (*Arista,* 1998, pp.61-69).

Thinking Time involves the teacher and children sitting in a circle and, through Socratic dialogue, searching for understanding of the particular question or topic. The topic is usually decided the day before the Thinking Time session to allow for reflection. By agreement a particular child opens the discussion and tips the child next to him or her. The 'tipped' child then has the authority to speak or to remain silent and then pass the tip to the next child in the circle. The teacher participates on the same bases and by carefully listening to the children's comments and questions attempts to extend the children's thinking and to model both dialogical language and thinking processes. Such phrases as 'I agree with...', 'I disagree with you because....', 'I was wondering what if/ why/ how come/ is it always so', and 'I think I know why...' are examples of the dialogical language used during Thinking Time. To end, the children are invited to give their final comments or questions for that session and there is no vote taken and no one conclusion reached. The discussed issue is left with many possible answers or indeed none. Sessions last on average about thirty-five minutes with the younger children in primary school. It is argued in this thesis that Thinking Time facilitates and encourages children to become natural philosophers in the tradition of early Western philosophy at Ionia some two and a half thousand years ago.

Although inspired by Lipman's work, Thinking Time differs from the latter as is reflected in the decision of Irish teachers to adopt the title of Philosophy *with* Children rather than Philosophy *for* Children. At the same time, while recognising the difference between Thinking Time and Lipman's programme, it is only fair to acknowledge that they have a great deal in common. Both have similar theoretical objections to many thinking skills programmes in which 'skills' are isolated and taught in a context-free manner.

Thinking skills programmes are pre-packaged and usually take the form of isolating specific cognitive skills and offering exercises to develop these

particular skills. There are an increasing number of these available: Edward De Bono's CoRT thinking programme, Reuven Feuerstein's Instrumental Enrichment programme and Tony Buzan's Mind-Mapping being some of the better known among them. The limitations of these approaches are illustrated in the research of McPeck (1990) and Resnick (1987). Such isolating of skills results in the fragmentation of thinking and there are few indications of the transfer of the same skills into areas of the curriculum. One reason for the outcomes is the lack of motivational strengths within these programmes for children. Without motivation and interest, children's participation in the programmed exercises amounts to routine compliance. Dunne uses a food analogy to emphasise the importance of motivation: 'of course without an appetite, food on a plate - no matter how nourishing or delicious - remains uneaten' (1998, p.25). As well as motivation there is a need for both content and context. The Philosophy for Children programme and Philosophy with Children, Thinking Time, are based on connecting and sharing the experiences, knowledge, interests and imagination of the children and teacher involved.

1.4 Higher-Order Thinking and Philosophical Thinking

The term 'higher-order' thinking is in common usage in education. Lipman defines it as 'a fusion of critical, rationalistic thinking and creative thinking' (1991, p.20). Higher-order thinking is a difficult term as it implies a hierarchical structure of thinking from low to high with implicit values attached. Lauren Resnick (1987) argues that teaching of thinking can neither be reduced to teaching specific thinking skills, nor organised according to a hierarchy or taxonomy of such skills. She makes the point that it is not so much about teaching, and encouraging higher-order thinking as opposed to lower-order thinking, rather it is about good thinking, desirable thinking, complex thinking, thinking that is so rich and enticing that it stimulates those who engage in it to do more, and to do it better. Laurence Splitter and Ann-Margaret Sharp (1991) would support such an argument and further the definition by suggesting that critical thinking helps people think well whereas philosophical thinking helps people think deeply. This depth can be understood as applying to both subject matter and thought processes. Not all topics or subject matter lend themselves to depth, nor do all thinking processes.

Equally thinking processes can have depth but may not be philosophical. Higher-order thinking can be part of mathematics, history, science etc. It is when topics and thought processes *both* have potential for depth that philosophy can take place. Philosophical thought nearly always engages with topics of existence and reality.

There is a further distinction to be made between critical thinking and philosophising. They do intersect and many of the elements of critical thinking are replicated in philosophy. However, one of the distinguishing features of philosophy is the dialogue. For the Greeks philosophy is an activity rather than an exercise. It involves a commitment and openness to argument. It is letting go of control over content. Gadamer writes of the need to participate, to enter into dialogue with an open mind in order to gain knowledge and wisdom:

> It is also precisely from this culture which springs the "aggressiveness" of modern science, which always wants to become master over its object by means of a method and thus excludes that mutuality of participation existing between object and subject that represents the highest point of Greek philosophy and makes possible our participation in the beautiful, the good, the just, as well as in the values of communal life. For the Greeks, the essence of knowledge is the dialogue and not the mastery of objects comprehended as proceeding from the autonomous subjectivity, that victory of modern science that has even in a certain sense led to the end of metaphysics (2000, pp. 69/70).

Thus, the usual meaning of critical thinking does not constitute philosophy. In chapter three I will describe the dispositions of the first Western philosophers as being of great significance in developing a new and different way of thinking. It is this disposition that Gadamer calls 'the mutuality of participation' and is viewed as central to philosophising with children. There are other elements that distinguish philosophy from critical thinking per se. Critical thinking in many school subjects is viewed as a means to develop children's ability, efficiency and awareness of finding answers, of solving problems and coming to conclusions. Philosophy does this too but it also seeks to do more; it equally welcomes the unknown, the non-answer, the confusing and the doubtful. The French

philosophers Gilles Deleuze and Felix Guattari explain this in terms of how, in trying to understand chaos, it is always important to allow some of the chaos to remain. 'And what would *thinking* be if it did not constantly confront chaos? Reason shows us its true force only when it "thunders in its crater"' (2003, p.208). Deleuze and Guattari compare philosophising to the creation of poetry and quote from the writer, D.H. Lawrence:

> People are constantly putting up an umbrella that shelters them and on the underside of which they draw a firmament and write their conventions and opinions. But poets, artists, make a slit in the umbrella, they tear open the firmament itself, to let in a bit of free and windy chaos ... (in Deleuze and Guattari, 2003, p.203).

Philosophy also tears open the firmament to allow thinking to remain fresh and raw as well as to develop concepts and dialogue. Thus critical thinking or what is sometimes referred to as higher-order thinking is integral to philosophy but philosophy encompasses further forms of thought. This is not to place a value judgement on either, only to acknowledge their difference. When the terms 'critical thinking' or 'higher-order thinking' are used in this work, they are understood as being *necessary but not sufficient* for philosophical thinking. A further critique of the nature of philosophy will enlighten and inform a central question of this thesis: Can Thinking Time be validly characterised as a philosophical process?

1.5 What is Philosophy?

What is philosophy? Indeed the question itself is philosophical in nature. A simple definition as a translation from the Greek is 'a love of wisdom', implying a desire to know. The natural philosophers are the progenitors of Western philosophy and by entering their world and thoughts, some clues can be found regarding the origin of philosophical thought in the West (see chapter three). In the thinking and theories of the natural philosophers on the subject of existence, there is a discernable shift from mythic to rational forms of thinking although both mythic and rational thought emerged from a questioning spirit and a sense of

wonder. Don Ihde defines philosophy as 'reflection upon existence and upon all those means by which that existence is to be understood' (1971, p.11). French philosophers, Deleuze and Guattari, emphasise the importance of meaning making: 'philosophy is the art of forming, inventing, and fabricating concepts' (2003, p.2). They continue:

> Concepts are not waiting for us ready-made, like heavenly bodies. There is no heaven for concepts. They must be invented, fabricated, or rather created and would be nothing without their creator's signature. Nietzsche laid down the task of philosophy when he wrote, '[philosophers] must no longer accept concepts as a gift, nor merely purify and polish them, but first *make* and *create* them, present them and make them convincing...'
> (2003, p.5).

Fabricating in this context can be interpreted as imaginative thinking, creating concepts and ideas that are the result of human thought. The English poet, William Blake, remarked that what is now proved was once only imagined (Beer, 1969). Deleuze and Guattari are critical of viewing philosophy as the art of reflection, 'it is thought that philosophy is being given a great deal by being turned into the art of reflection, but actually it loses everything' (2003, p.6). They claim reflection is something that philosophy passes through to become philosophy and support their argument by asserting that mathematicians, as mathematicians, have never waited for philosophers before reflecting on mathematics, or artists before reflecting on painting or music. They continue, 'philosophy does not contemplate, reflect, or communicate, although it must create concepts for these actions or passions' (p.6) They are clear in their view of what philosophy is as well as what it is not:

> So long as there is a time and a place for creating concepts, the operation that undertakes this will always be called philosophy, or will be indistinguishable from philosophy even if it is called something else (2003, p.9).

To facilitate this study, elements of both Ihde's and Deleuze and Guattari's definition will be drawn upon. This is not to deny their differences but rather to acknowledge that there are diverse views on the purpose of philosophy. The

definitions are not mutually exclusive and possibly Deleuze's and Guattarri's objection to reflection by itself defining philosophy is very valid. Equally forming concepts without reflection could be viewed as lacking philosophical essence. By accepting both the formation of concepts and reflection as part of philosophy I am hopefully strengthening a working definition for this thesis. There are a number of aspects of Deleuze and Guattarri's definition that are important for this study and can include reflection as a pedagogical approach as part of philosophy. The naming of the terms, 'time', 'place' and 'creating concepts' is significant in reaching an understanding of philosophy with children. The element of 'time' is incorporated into the phrase Thinking Time, reflecting the practical reality that time within a school timetable is allocated to make space for thinking. The 'place' is school - a social construction for the compulsory education of children. However, Ihde's emphasis on reflection is also viewed as important because as is shown in chapter four and five of this thesis, it is through reflection that children access some other higher-order thinking processes that are necessary to doing philosophy.

The thinking that takes place during Thinking Time is not tied to the official curriculum and of course thinking occurs during history, geography and all other areas of the set curriculum. A set curriculum implies a suite of already formed concepts in different areas of knowledge. Of itself the thinking associated with learning the concepts in a set curriculum does not constitute philosophy, although in the hands of a creative teacher it has the potential to do so. The thinking that occurs during Thinking Time is within the collective autonomy of the children as it is they who determine the content for discussion. Autonomy in this context has two aspects; the children choose the topic and they also control the direction of the dialogue. Possible concepts are not pre-determined by teacher or curriculum requirements. Topics emerge from areas of interest to the children and from questions they ask. These questions often appear naïve but by returning to the simplicity and the fundamental issues found in such questions, one can access a rich source for philosophical thought. Gareth Matthews contends there is a certain innocence and naïveté about many, perhaps most philosophical questions with which children readily engage but which are socialized out of adult thought (1980, p.73). Matthews further elaborates on this

in *The Philosophy of Childhood* (1980), asserting that learning to be comfortable with 'naïve' questions is an important part of philosophy:

> Sophistication may bring increased knowledge and a refined sensibility. But it may also encourage a cult of experts, dull sensitivity, and reward flatulence in thought and language. Every society needs a barefoot Socrates (or a sky-gazing Thales) to ask childishly simply (and childishly difficult!) questions, to force its members to re-examine what they have been thoughtlessly taking for granted (1980, p. 94).

In the ongoing debate about what constitutes philosophy, certain elements, such as wonder, a questioning spirit, reflection, dialogical engagement and concept forming, are generally viewed as essential. For the purpose of this study philosophy is calling upon both the Ihde and Deleuze and Guattari understanding of what philosophy is. Ihde's definition 'reflection upon existence and upon all those means by which that existence is to be understood' (1971, p.11) gives a broad interpretative framework and, in so doing, posits an inclusive approach to philosophy. Indeed his definition may permit many origin myths to be regarded as philosophical in nature. Reasoned thought and attempts at concept formation as emphasised by Deleuze and Guattari are also considered relevant to children's engagement with philosophy.

In identifying concept formation as a particularly significant element of philosophy it is helpful to quote Robert Fisher's articulation from an educational perspective of what is involved in a conceptual process:

> Learning a concept is not an 'all or nothing' process, it is the building up of successive approximations, of finer distinctions, of a widening network of related ideas, of coming closer to the common understandings of a culture and to the knowledge structure of experts (1995, p.60).

Furthermore he stresses:

> We are always in a state of incomplete knowledge, of coming to know, of building on our partial understandings. Throughout life, we are (or should be) constantly developing our conceptual understanding of the world (1995, p.61).

Therefore, the function of Thinking Time is the making of meaning that can include concept formation. It may be that at the end of a Thinking Time session, new concepts are either formed or in the process of being formed by the children and their teacher. The purpose of the process is to create an environment in which children are encouraged and facilitated in voicing their opinions and ideas in the pursuit of truth and wisdom. Concepts are an integral part of this learning.

1.6 Philosophy with Children: The Critics' Concerns

Not all educationalists are convinced of the wisdom or worth of having children engage with philosophy. Plato was one such sceptic and in more recent years John White, professor of Education at the Institute of Education, University of London similarly views philosophy as a:

> difficult academic enterprise, dealing with abstract matters far removed from children's usual preoccupations and requiring a capacity for hard, continuous logical thinking (2001, p.20).

White does, however, acknowledge that 'it may be legitimate to say that a teacher is involving them [children] in philosophical thinking,' though his reservation is again apparent in his qualification that 'One would expect this to happen more with older children, but I would not want to rule it out in some cases with younger ones' (p.22). White's description of philosophy excludes children from what he clearly sees as a sphere of the adult intellectual world and appears to assume that children have no interest in matters that are the subject of philosophy. Such an understanding is also implied by Piagetian psychology in that it asserts the idea of children's inability to think abstractly until they reach eleven or twelve years of age. However, the works of Matthews and Egan contradict this Piagetian claim, arguing strongly for education programmes to be

based on children's capacity for both abstract and concrete thinking. Indeed Matthews is particularly robust in asserting that:

> To maintain that children live in a pre-scientific and even pre-rational world is arrogant and inappropriately condescending (1994, p.27).

He does, however, qualify his position in the following terms:

> I don't mean that children in general, or even some children, are better philosophers than any adults are. That isn't true ... but there is a freshness, an urgency, and a naturalness about children's philosophy that both asks to be celebrated for itself and can help us appreciate the nature and significance of adult philosophy - or better, of philosophy itself. If one focused exclusively on the adult phenomenon, one would have only a truncated conception of what it is that moves people to ask and re-ask those age-old questions (1994, p.122).

Although referring exclusively to young men, Plato in his writing has provided those who argue against engaging children in philosophical thought with grounds for some of their arguments. He claimed that 'it fills people with indiscipline' and indeed might corrupt the young and discredit philosophy:

> You may have noticed how young men, after their first taste of argument, are always contradicting people just for the fun of it ... like puppies who love to pull and tear at anyone within reach ... so when they have proved a lot of people wrong, often themselves, they soon slip into the belief that nothing they believed was true; with the result that they discredit themselves and the whole business of philosophy in the eyes of the world (1973, p.309).

Plato's concerns are very real and remain so for both education and philosophy. Children in many school systems are encouraged to debate topics but often it is the winning of an argument that is given priority rather the value of the initial claim. The emphasis can be on the art of delivery rather than dialogue. The danger of reducing thinking or indeed philosophy to technique, skills and

sophistry is still very present and is to be guarded against. Such approaches can impact overtly and insidiously on pedagogy and curriculum. The values underpinning any philosophy programme for children need to be explicit.

1.7 Dialogue in Education: a Brief History

In recent decades, philosophy for children as a discipline within education programmes has been initiated and energised by the work of Matthew Lipman. That is not, however, to suggest that the practice of encouraging reflective thinking was not present in formal education contexts previous to this departure. Educationalists, such as Rousseau, Pestalozzi, Froebel and Montessori advocated the recognition of childhood in its own right. In keeping with this view of childhood they advocated some independence for children in the learning process. They favoured children being invested with some level of autonomy with regard to their own education, viewing them as partners along with teachers in learning. In a letter dated 1819 and published in 1898, Pestalozzi wrote to his friend, Greaves:

> Let the child not only be *acted upon* but let him be an
> *agent* in intellectual education ...... Let the mother bear
> in mind that her child has not only the faculties of
> attention to and retention of certain ideas or facts, but
> also a faculty of reflection, independent of the thoughts
> of others. It is well done to make a child read, and
> write, and learn, and repeat - but it is still better to make
> a child *think* (Letter XXIX,1898).

The theories for practice in encouraging children to think have been available to educationists for centuries. The Romantic Movement associated with Rousseau in some ways became a victim of its own success. Childhood was acknowledged as a distinct time in human development but subsequently came to be seen as detached from the rest of human existence, characterised by a different cognitive and emotional framework. Recent understandings of childhood dispute such a universal claim and Dunne and Kelly (2002) warn against what they term 'that mythic country called childhood':

> Much that is imputed to 'childhood' as a universal
> phenomenon turns out, on closer analysis, to be the
> product of a specific culture or historical epoch ...
> Normative claims for any single version of 'childhood'
> become enormously problematic when exposed to the
> full range of childhoods that cultural and historical study
> now brings to our attention (2002, p.5).

Some models of developmental theory, because of their general approach to child development, can limit as well as inform the understanding of children's thinking and learning. Dunne's and Kelly's warning regarding the perils of ignoring the specific nature of childhoods is particularly relevant in the context of the present study, reminding us that childhood is a social construct and having created the concept, society, through educationalists, psychologists and other academic disciplines, struggles to understand it. However, when one reads the works of Pestalozzi, Froebel and Montessori pedagogical approaches that engage children in talk and thought have been present from the early days of schooling. In the same letter dated 1819, Pestalozzi explains how thinking can be encouraged in a child:

> The mode of doing this is not by any means to talk
> much *to* a child, but to enter into conversation *with* a
> child; not to address to him many words, however
> familiar or well chosen, but to bring him to express
> himself on the subject; not to exhaust the subject, but
> to question the child about it, and to let him find out and
> correct the answers (Letter XXIX, 1898).

In a similar way, Thinking Time encourages the child to ask the questions as well as providing him or her with the opportunity of being questioned by peers. In particular Pestalozzi's emphasis on talking *with* rather than *to* children is significant and has found resonance a great many years later in the decision by Irish teachers to name themselves as teachers of philosophy *with* rather than *for* children. Indeed Paulo Freire makes the same distinction in *Pedagogy of Hope* (1996) (see p.33 below). The work of John Dewey and others was influential in keeping this tradition alive into the twentieth century. For Dewey thinking is the method of intellectual learning that employs and rewards mind (1966) and central to his theory is the concept of democracy. Almost forty years later, Karl Jaspers commented on the richness of children's thinking. He observed how:

> With the years we seem to enter into a prison of conventions and opinions, concealments and unquestioned acceptance, and there we lose the candour of childhood (1954, in Lipman, 1994, p.39).

Thus it can be seen that from the beginning of formal schooling, some educational theory and practice have been informed by the recognition of children as autonomous learners and thinkers. Although not all theorists, practitioners or societies support such values, there always have been advocates of this pedagogical approach. Lev Vygotsky, the Russian psychologist, as a young child was taught through Socratic dialogue by his tutor, Solomon Aspiz. Luis Moll (1990) suggests this early experience may have been the inspiration for some of his educational theories. Fisher defines Socratic dialogue in schools as:

> A process approach where the teacher becomes the facilitator of investigation, aimed at encouraging children to discuss, listen, clarify and justify their thinking (1990, p.166).

In more recent years Socratic dialogue in schools has become associated with Matthew Lipman's Philosophy for Children programme (1974). The difference with Lipman's work lies in the naming of a practice (in schools) of encouraging thinking as philosophy. In doing so Lipman very deliberately distinguishes this practice from narrower thinking skills programmes discussed earlier. One of the distinguishing features of both Philosophy *for* Children and Philosophy *with* Children is their awareness of creating a community of enquiry.

1.8   A Community of Enquiry: Democratic Values

A community of enquiry is best understood in terms of the values on which it is based. Although the practice of Philosophy with Children or Thinking Time differs from Lipman's Philosophy for Children programme, they share a common *raison d'être*. Within their communities of philosophy, autonomy of thought and participation are two of the underlying principles. Children and teacher learn

through their own participation and the participation of others as well as from the spoken content. They voice opinions, ask questions, wonder aloud, agree and disagree with the ideas of others and collectively explore concepts to develop understanding of particular topics. It is a dialectical approach to meaning making. The aim is to develop dispositions and skills that will enable all involved to play their full part in a democratic process that has the potential to enhance their future lives and the societies of which they are members. A critical disposition that is informed through co-operating and engagement with the creative and reflective thoughts of others in the pursuit of wisdom and truth becomes a way of being as opposed to a trained reaction. This is the distinctive and fundamental difference between engaging in philosophy and learning or teaching isolated thinking skills.

Such an approach to philosophy is part of enacting democratic practice within classroom and curriculum structures. Critical theorists such as Rex Gibson, Henry A. Giroux and Peter McLaren emphasise the significance of language, curriculum and the role of teachers in implementing democratic values in an education system. However, a concerned Gibson warns that the intellectual basis of the teaching profession is under threat (1986, p.169) and he is joined by Giroux and McLaren in commenting on the dangers of de-skilling teachers and attempts at 'teacher-proofing' curriculum that reduce teachers to the status of technicians (1989, Introduction). With constant demands for quality assurance and accountability, combined with pressures of school league tables and litigation against schools, the reduction of teaching to a skills-based function is a very immediate threat. At present the debate on whether or not to publish school league tables based on examination results is ongoing in Ireland. No final decision has been reached but the danger inherent in these demands is that education becomes classified as a commodity, using the language and values of the market place. Gibson is critical of instrumental rationality that concerns itself with method rather than purpose and sees it limiting itself to 'how to do' questions rather than encompassing 'why do it?' and 'where are we going?' questions. He attributes this outlook on education to 'the obsession with calculation and measurement: the drive to classify, to label, to assess and

31

number all that is human' (1986, p.7). Giroux and McLaren offer an alternative that they call emancipatory authority:

> Within this discourse, teacher work is viewed as a form of intellectual labour that interrelates conception and practice, thinking and doing, and producing and implementing as integrated activities that give teaching its dialectical meaning (1989, p.138).

Critical theory is strong in its recognition of the bias of language. Terms utilised to describe education and the voices heard within it are indicators of either an emancipatory or an authoritarian system. Giroux and McLaren emphasise the need for children to find their own voices and to construct meaning out of their own narratives, based on their family experiences and their neighbourhood lives:

> A critical pedagogy in this case addresses, affirms and critically analyses the experiences, histories, and categories of meaning that shape the immediate reality of student's lives, but it does not limit itself to these categories (1989, p.146).

This is in keeping with the theories and suggested practice of Vygotsky (1978) and Friere (1996) who stress the importance of the immediate and the experiences of learners as a means to developing more abstract concepts and introducing new cognitive frameworks, content and curriculum. Giroux and McLaren do not approach this in a sentimental, uncritical way; rather they view as crucial the need to develop a critically affirmative language that works with and on the experiences that students bring to the classroom. By voicing their experiences and knowledge in a safe and constructive environment, students learn to give meaning to their own lives and to the lives of those in their community. Such an approach to learning is premised on acknowledgement and respect for the identities of the learners.

Paulo Freire worked with adults in Latin America and he re-visited his own work on critical pedagogy in *Pedagogy of Hope, Reliving Pedagogy of the Oppressed* (1996). Freire reflects on democratic practice and how this implies respect for the knowledge of the living experience as the basis for further teaching and learning 'even when one must speak *to* the people, one must

convert the *to,* to a *with'* (1996, p.26). The emphasis on these pedagogically important prepositions is reminiscent of the stress Pestalozzi placed on the same prepositions many years previously (p.29). Having identified the problem of 'banking education' in *Pedagogy of the Oppressed* (1974), Freire in *Pedagogy of Hope* looks to the future and to good practice in teaching. He considers the instilling of hope in learners one of the key defining tasks of democratic education and views language as central to this process:

> Emerging from and returning upon their reality sketches out the conjectures, the designs, the anticipations of their own world. Here is one of the central questions of popular education - that of language as a route to the invention of citizenship (1996, p.39).

Freire emphasises the importance of praxis, of theory and practice being inter-related. He gives the example of receiving a letter from a group he worked with in San Paulo. The letter requested him to continue writing but asked that he 'should lay it on a little thicker' when he came to those scholarly types who come to visit as if they had revolutionary truth by the tail 'you know, the ones that come looking for us to teach us that we're oppressed and exploited and to tell us what to do' (1996, p.63). Freire is clear that working with the educand's knowledge is the starting point of good practice, 'starting with the 'knowledge of experience had' in order to get beyond; it is not <u>staying</u> in that knowledge' (p.70). Imagination is crucial to this process of moving cognitively into engagement with new possibilities, new ideas and new concepts. Imagination is therefore an integral part of being human and of thinking and Freire refers to it is as dreaming:

> Dreaming is not only a necessary political act, it is an integral part of the historico-social manner of being a person, it is part of human nature, which within history is in permanent process of becoming...there is no change without dream, as there is no dream without hope (1996, p.90)

Freire's reference to the historical and cultural influence of being a person has implications for understanding cognitive development that will be discussed later in the chapter and can be classified as a social constructivist understanding of

education. Lev Vygotsky is central to the loose grouping know as social constructivists. He too emphasises how thinking and cognitive development are culturally particular and he also considered imagination an important tool for human cognitive development. Imagination, according to Vygotsky, emerges when a child's desires cannot be immediately gratified or forgotten and the child enters an imaginary, illusory world in which the unrealisable desires can be realized (1978, p.93). This is a new psychology process for the child. Imagination for Vygotsky (1978) is not present in the consciousness of children under the age of three, is totally absent in animals and represents a specifically human form of conscious activity. Like all forms of consciousness, it originally arises from action. This action in childhood is play and it is in play that the child's imagination can explore beyond the limits of her/his everyday existence:

> The creation of an imaginary situation is not a fortuitous fact in a child's life, but is rather the manifestation of the child's emancipation from situational constraints (1978, p.99).

Imagination is a tool in the development of abstract thought. Abstract thinking allows reflection and thought to travel from normal surroundings, metaphorically to draw something away from situational constraints and study it at a distance. Language and concepts are both abstract. Abstractions can function at different levels, for example one can have a concept of a cup based on one's experiences of the physical details and functions of cups. The basic criteria for a cup, to be defined as a cup, can be abstracted and understood within a general concept that can be applied to all cups more or less. Such abstractions are based on a physical and concrete reality. However, by comparison, abstractions like the concept of beauty or happiness are not as easy to define, although examples of what is accepted as beautiful based on a painting or a geographical location can be given and criteria extracted. While such definitions are culturally and historically particular, the acceptance of a concept of beauty might be claimed to be more or less universal. This importance ascribed to forming and defining concepts was also a feature of Deleuze and Guattari's understanding of the nature of philosophy. Possibilities that are perceived as invalid in immediate, concrete living can become viable in an imaginative world. Cognitive and

linguistic explorations are without limits or boundaries. Children's play and language offer tools for abstract and higher psychological functions to operate.

Yet Jean Piaget placed little value on imaginative speculation by children, dismissing it as mere 'romancing':

> When the questions are set to children, especially to those of less than 7 or 8 years, it often happens that, looking perfectly candid and serious the while, they merely make fun of the question and invent an answer simply because they like the sound of it.... This is certainly the correct interpretation in the majority of the cases (1951, p.16)

Piaget suggests this explanation does not account for all the 'romancing' of children under the age of eight and proposes another possibility, 'mythomania of the hysteric'. According to this alternative, the child is partly taken in by the romance of his own account, 'as for instance when he resolves for himself some private problem of his own' (p.16). Piaget explains this 'romancing' as 'negative indications' (p.17). It is his understanding of the role of the imagination in cognitive development and his theory on childhood egocentricity that distinguishes Piaget's work from that of Vygotsky. For Vygotsky, use of the imagination is a formative activity that is a central element of thinking and he claims imagination in adolescents and older school children constitutes play without action. Vygotsky views children as very social beings and identifies this interpersonal ability as the source of their cognitive development.

The Thinking Time model of Philosophy with Children is firmly rooted within the Vygotskian social constructive approach to teaching and learning.

1.9 Teaching and Learning

In order for democratic processes and critical pedagogy to be enacted, good practice in teaching and learning needs to be identified and it in turn needs a coherent theoretical base. To enact the practice of encouraging philosophical

thought with children, an understanding of how children learn to think is necessary.

As quoted above, Friere claims there is no change without dreaming and Vygotsky considers the imagination a distinctive human facility for thinking. It is a tool for engaging in abstract thought. Many educationalists have asserted the importance of imagination in the learning process. In recent years, Kieran Egan has been an influential voice suggesting that the more distant and differing something is from students' everyday lives, the more imaginatively engaging it is likely to be, although he does recommend that the immediate should not be neglected:

> Rather I want to point out that the assumption that everyday experience must be a *starting point* for engaging the imagination can be profoundly misleading. It is, of course, vital, but it plays *a role in stimulating the* imagination when it is engaged dialectically with knowledge that is most different and distant (1992, p73). .... The argument, that is, leads us to one of those paradoxes; it is by focussing on the distant and strange that we can enlarge the meaning of the familiar world around us (1992, p.78).

Egan believes that imagination is not something to be gained at the expense of rationality; rather rationality without imagination is 'blind, rudderless and as likely to destroy what is of human value as help it' (1992, p.167). In his critique of 'progressive education', *Getting it Wrong from the Beginning* (2002), Egan traces the similarities and influences of Herbert Spencer's thinking in the work of Jean Piaget and critiques the way in which 'development' in education is taught and discussed almost exclusively in Piagetian terms (p.105). Erica Burman (2000) affirms this view and bemoans the fact that Piaget's theories remain the dominant psychological resource for professionals who want to understand how children think. She argues that it is precisely because Piaget's influence on developmental psychology has been so profound in structuring the form of the discipline that the Piagetian undertones are largely invisible (p.151). This is despite the acceptance and acknowledgment of the work of Margaret Donaldson,

Lev Vygotsky and others who assert that Piaget's theories limit the understanding of the breadth and depth of children's thinking.

Piaget advocated the 'primitive/child' analogy in understanding cognitive development, suggesting that thinking emerges from early reaction patterns followed by primitive habits and emerging as rational, logical thought. The evolutionary view of cognition, of thinking and of emerging concepts claims children follow a pattern of change that has prevailed from the era of early humans to the present day. The primitive/child comparisons were commonplace in nineteenth-century anthropological, psychoanalytical and psychological theorising (Burman, 2000 p.160). For Piaget, rational abstract thought is the result of an individual's ability to de-centre. His argument and theories rest on this claim:

> We will realise in fact that the primitive is intellectually
> and morally even more the slave of self-centredness
> and social coercion than we [adults] are liable to be
> (Piaget, 1955, p.21).

Donaldson (1978) disputes Piaget's contention that young children are unable to de-centre. Rather, she suggests, young children's ability to empathise with the motives and intentions of the characters in the Piagetian tests in fact proves their ability to de-centre:

> Thus the 'mountains' task is *abstract* in a
> psychologically very important sense: in the sense that
> it is abstracted from all human purpose and feelings
> and endeavours. It is totally cold-blooded. In the veins
> of three year olds, the blood still runs warm (1978,
> p.24).

Donaldson asserts that if we cannot get children to reason when we contrive experiments aimed at observing them engaged in spontaneously reasoning, then we must ask why this is the case (p.56). She believes that children function well when faced with tasks embedded in their own experiences and she contends that children are more capable of de-centring than had been previously thought. Citing the research of Martin Hughes (p.21), Peter Lloyd (p.30) and James McGarrigle (pp.43-50), Donaldson highlights the increasingly widespread

recognition among scholars that young children are not so limited in their ability to de-centre or to appreciate the viewpoint of another as Piaget thought (p.30). Clearly the abandonment of this long accepted belief in pronounced childhood egocentrism has far-reaching implications for pedagogical approaches in early years education. Donaldson proposes that all humans, not just children, can be egocentric in some situations and very well able to de-centre in others (p.25). She also emphasises the importance of abstract thinking:

> It is immensely important. Much that is distinctively human and highly to be valued depends upon it. And young children are bad at it (1978, p.24).

This latter sentence is out of character with the rest of Donaldson's interpretation and certainly needs to be questioned. The work of Matthews and Egan contradict Donaldson's judgement on young children's capacity for abstract thought and this thesis strongly adheres to the Matthews-Egan contention that children are as capable of abstract thinking as of concrete thinking. The imaginative process so evident in children and their ability to partake in and extend stories is but one demonstration of their ability to engage in abstract thinking. Vygotsky claimed this imaginative ability emerges at around three years of age. However, Donaldson's work has undoubtedly been seminal in two important respects. Through questioning the dominance of Piaget's theories and advocating the significance of abstract thinking for children, she affirms the importance of children's questions and the need for the child to gain a measure of control over his or her own thinking. But, she warns, the child 'cannot control it while he remains unaware of it' (p.123), thus recognising the importance of both metacognition and autonomy of thought. Piaget expresses surprise at children's capacity for questioning in *The Child's Conception of the World* (1951) where he suggests:

> It may seem strange to ask children where the sun and the moon and the stars come from. The idea of it did not occur to us for a long while, and when it did we hesitated to apply it for fear the children should think we are making fun of them. As a matter of fact, however, scarcely any questions seem absurd to a child (1951, p.256).

Piaget's insight led him to research and publish children's thoughts and concepts on the sun and the moon, the sky, the origin of clouds, thunder and lightning, rain, snow, the origin of wood and plants as well as that of stones and of earth. While Piaget's work is a very valuable resource for this thesis, nevertheless the present study comes to very different conclusions compared to those based on Piaget's understanding of how children think and make sense of the world.

Piaget questions the child's notion of reality and, in keeping with the romantic tradition, detaches the child from the 'we', that is the adult world. He asks:

> Does the child, in fact believe, as we do, in a real world
> and does he distinguish the belief from the various
> fictions of play and of imagination? (1951, p.1).

He wonders if children's responses to questions on existence present a new type of explanation that goes beyond that offered by philosophy, the sciences or 'savages' (p.1). He views the responses of children as falling into two categories, the 'liberated' and the 'spontaneous' (p.11). The liberated answer for Piaget 'is the result of reasoning, performed to order, but by means of original material... and original logical instruments (methods of reasoning, natural tendencies of mind, intellectual habits etc.)' (1951, p.18). On the other hand the 'spontaneous conviction' is the child's response to a problem that is not new to the child. In this instance, the reply is the result of a previous original reflection. Piaget does not explain why he regards this thinking as part of children's thinking exclusively. The spontaneous answer is also associated with 'answer at random' (p.18) and 'romancing' (p.16). However, little value is given to 'romancing' by Piaget who regards 'the study of romancing as such yields nothing like the wealth of material to be found in the study of the liberated conviction' (p.16). This is a serious limitation in Piaget's theory as it excludes the wealth of thinking processes that characterize the speculative and imaginative worlds of children's thinking. His theories are also constrained by his understanding of the egocentricity of children:

> If his [the child's] logic lacks exactitude and objectivity it
> is because the social impulses of maturer years are
> counteracted by an innate egocentricity (1951, p.33).

In this respect Piaget concurs with the theories of Vygotsky by acknowledging the importance of social interaction for cognitive development. The difference in interpretation lies in Vygotsky's conception of social interaction as a function of being human whereas Piaget views it as a function of humans from approximately twelve years onwards. Piaget's understanding is age-related while Vygotsky's is not. Piaget further extends his 'primitive mind' theory to explain animism and artificialism in children's thinking. However, he does distinguish between what he refers to as 'child animism' and 'primitive animism' (p.169). Animism describes the tendency to regard objects as living and endowed with will. It is to be found in children's thinking, mythic thinking, fantasy and science fiction and is a tool for explaining events and happenings and for forming imaginative stories. With artificialism, again Piaget draws the distinction between child artificialism and Greek artificialism. However, he advises that 'it is an advantage to use the same word in both cases to signify the same tendency to confuse material causality and human creation' (p.169) which he connects with pre-Socratic philosophy. He claims there is a decrease in child articialism at the expense of a progressive search for explanations that identify elements such as air, smoke, clouds and water. Piaget makes connections between this process and the thinking of the pre-Socratic philosophers, likening the comments of two children aged nine and ten years on condensation and rarefaction with the theories of Empedocles (1951, p.347). The concept of thinking as evolving in a developmental way from 'primitive' to modern humans is integral to Piaget's theory of children's thinking developing in age-related stages. This thesis disagrees with such an assumption and argues that similarities between children's responses and those of the pre-Socratic philosophers are a result of the universal interest in the subject matter of existence, the human ability to reason and a critical disposition rather than any similarity in thinking ability. To accept Piaget's theory of 'primitive' people with 'primitive' thinking skills is nothing more than evolutionary arrogance.

Children's thinking and its development involve complex processes that have intrigued psychologists and educationalists both past and present. There is no one theory explaining all the complexities of the human mind but ongoing research into children's thinking adds to the acceptance of the vast potential of human cognitive processes. In recent years educationalists like John White (2001) have cautioned against over-interpretation of children's comments, of reading too much meaning into them. However, it is becoming increasingly evident and recognised that Piaget's research on children concepts of the world (2001) both under-interprets and limits the understanding of children's ability to think. For example, this is apparent in Piaget's analysis of questions posed by a child of two years and six months of age that were recorded by Bohn:

> At 2;6 ' *Papa, were there people before us?-* Yes- *How did they come there?* – They were born like us- *Was the earth there before there were people on it?* –Yes- *How did it come there if there was nobody to make it?* (1951, p.333)

In commenting on these queries, Piaget remarks:

> Other questions relate to the growth of trees, of flowers, to the origin of dust, etc.; in fact, all materials give rise to spontaneous curiosity and the very form in which the question is phrased shows in most cases that the child is expecting an artificialist explanation in return (1951, p.333).

Piaget's explanation is limited since even if the initial questions were to appeal to artificialist answers, the potential for further thinking, both imaginative and rational, are not explored. This young child displays ability in reflection, logic, inference, an awareness of self and others and a concept of time. Who were the first people? Where did they come from? When did life begin? What caused the existence of earth? These are questions that have both actuality and potential to guide such a child into new conceptual frameworks and tools of thought.

Lev Vygotsky also acknowledges that children's thinking has often been likened to the growth of plants or the evolution of humans. However, he rejects

these analogies and, in his understanding of children's thinking and how it emerges, the theories of Thorndike and Koffka and Piaget are all reviewed and rejected in turn (1978, pp.82-83). Thorndike considers that learning involves more than acquisition of the ability to think; rather he claims it is the acquisition of many specialized abilities for thinking about a variety of things. He came to the conclusion that because each activity depends on the material with which it operates, the development of consciousness is the development of a set of particular, independent capabilities or of a set of particular habits. Thorndike, on this basis, suggests that improvement of one function of consciousness or one aspect of its activity can affect the development of another only to the extent that there are elements common to both functions and activities.

Koffka and the Gestalt School, emerging out of Germany in the 1920s as a reaction to behaviourism, asserted that the influence of learning is never specific and this makes it possible to transfer general principles discovered in solving one task to a variety of other tasks. According to Thorndike, learning and development coincide at all points, but for Koffka, development is always a larger set than learning. Vygotsky argues for a third approach. Just as he views language and thought as two separate but interrelated cognitive processes (1997), so he argues that learning and development are interrelated but independent: 'learning and development are interrelated from the child's very first day of life' (1978, p.84). His theory is based on the conception of the child as a social being. For Vygotsky, human learning pre-supposes a specific social nature and a process by which children grow into the intellectual life of those around them. Even very young children can only imitate what is within their developmental level. For Vygotsky, children's actual developmental level is the mental functions that have been established as a result of certain completed developmental levels (1978, p.84). Children's potential development is what they can do under adult guidance or in collaboration with more capable peers. Known as ZPD, Zone of Proximal Development, this is one element of Vygotsky's thinking which has become very influential in the West. Based on this theory, Vygotsky concludes 'thus, the notion of a zone of proximal development enables us to propound a new formula, namely that the only "good learning" is that which is in advance of development' (1978, p.89). Learning leads development but

Vygotsky is clear that learning is not development *per se*. However, he contends that properly organised learning results in cognitive development and sets in motion a variety of developmental processes that would be impossible apart from learning. It is as a result of developmental processes following learning processes that zones of proximal development are created.

> The major consequence of analysing the educational process in this manner is to show that the initial mastery of, for example, the four arithmetic operations provides the basis for the subsequent development of a variety of highly complex internal processes in children's thinking. .... Thus, learning is a necessary and universal aspect of the process of developing culturally organized, specifically human, psychological functions' (1978, p.90).

While distinguishing between learning and development, Vygotsky acknowledges the connection between them. They are directly related to each other but do not follow a direct or parallel line: 'development in children never follows school learning the way a shadow follows the object that casts it' (1978, p.91). This allows for differences between children. There may be many similarities in the functional learning system of one child and another but they will not be identical. Unlike Piaget, Vygotsky does not adhere to the concept of universal stages of development for children as a function of age. Vygotsky's child is more connected to the adult he or she is to become and to the society to which he or she belongs than Piaget's child. The latter divides the human world into children, primitives and adults. By contrast, Vygotsky's world is divided in accordance with the social and historical existence and he views the human brain as universal only in its potential. A.R. Luria, who worked with Vygotsky, elaborates the theory:

> The human cerebral cortex... becomes an organ of civilization in which are hidden boundless possibilities, and does not require new morphological apparatus every time history creates the need for a new function (1967, *Soviet Psychology* 5, no.3, pp. 53-57; in Vygotsky, 1978, p.125).

His interpretation of human learning potential was the reason for Vygotsky's argument against restricting young children to learning through solely concrete

materials. The fact that young children are often taught through the use of concrete materials alone prompted Vygotsky to write on the failure of teaching programmes for children with learning difficulties, who were taught solely through a concrete approach that eliminated from teaching everything associated with abstract thinking. He emphasises that such teaching not only failed to help the children overcome their learning needs but reinforced their disability by suppressing the rudiments of any abstract thought that the children possessed. In the case of teaching programmes 'concreteness is now seen as necessary and unavoidable only as a stepping stone for developing abstract thinking- as a means, not as an end in itself' (1978, p.89). Egan is supportive of Vygotsky's criticism, asserting that programmes based on this strange belief serve to impoverish the experience of schooling for many children (2002, p.62).

Learning is an on-going dialectic. This is central to the social constructivist approach to learning and is based, for Vygotsky, on a Marxist understanding of what it is to be human. The writings of Engels quoted in *Mind in Society* (1978) emphasise the influence of man on nature rather than nature on man advocating,

> The great basic idea that the world is not to be viewed as a complex of fully fashioned objects, but as a complex of processes, in which apparently stable objects, no less than the images of them inside our heads (our concepts), are undergoing incessant changes...(Vygotsky, 1978, p.120).

In this dialectic approach the influence of nature on man is acknowledged but through man's impact on nature, a new natural condition for man's existence is created. 'This position is the keystone of our approach to the study and interpretation of man's higher psychological functions and serves as the basis for the new methods of experimentation and analysis that we advocate' (1978, p.60). A basic element of Vygotsky's dialectic understanding is to study learning in the process of change, as an organic process not an object. This is reflected in the relationship between the individual and society. It is a process of interaction, combining and separating different elements of human life and it is this social, cultural dynamic that is the stimulus for thinking.

1.10 Conclusion

Chapter one has explained the practice of Thinking Time and reviewed the philosophical and educational arguments for it. The context and background of Early Childhood Education in Irish and international terms has been considered. The social constructivist understanding of children's thinking has been contrasted with the more dominant Piagetian model and the practice of Thinking Time is established as adhering to the Vygotskian social constructivist model of teaching and learning with its emphasis on dialectical processes. Such emphasis is relevant to understanding the philosophical nature of the discourses of the selected children and the selected proto-philosophers in this study because, as Gadamer (2000) asserts, the essence of knowledge for the Greeks came from dialogue. A central question being investigated by this thesis is what specifically is philosophical about the talk presented in chapters three, five and six and how may this inform and illuminate Thinking Time.

In chapter two I reflect on a very early form of explaining existence, myth. The myths of the world are a rich source and evidence of the human ability to create meaning through language. Myths are imaginative stories found in all inhabited parts of the world and their interest for this thesis is that they seek to answer the questions on natural phenomenon that intrigued the natural philosophers and that are often asked by children and reflective adults. As commented on in the Introduction, *logos* gradually emerged from *mythos* and it is this emergence, before rational procedures were crystallized, that is reflected in the thinking of the selected philosophers, Thales, Anaximander, Anaximenes and Xenophanes. Natural phenomenon is the major content through which significant parallels between the thinking of the children and the philosophers are investigated and to give a context to the work of the proto-philosophers chapter two gathers together some of the origin myths from around the world and considers their significance as the structure of thought from which Western philosophy first emerged.

Chapter 2:
Myths & Stories: The Context Of Philosophy

2.1 Introduction

The Greek philosopher, Aristotle (384-322 BCE), wrote in *Metaphysics* (1.2 982b 12-21) that 'the lover of myths is also in a way a philosopher, since myths are made up of wonders.' In order to understand the first known western philosophers it is necessary to understand the interpretative world into which they were born and how the wonder previously expressed in myth became articulated in philosophy. The myths of their world give a context for the work of the natural philosophers and to appreciate and understand them, knowledge of the thinking that preceded them is important.

Myths are a form of story that uses the supernatural to interpret natural events and to explain a cultural view of the universe and the nature of humanity. They are an integral part of the oral history and culture of particular communities and have distinct features reflecting the flora, fauna and climate of the area from which they originate. However, myths also have universal themes, the most common of which is to explain existence. This chapter will reflect on some of the great myths of the world, their major themes and how their content was also the subject of enquiry for the natural philosophers and for the children in this study. This shared interest justifies dedicating a chapter reflecting on a number of myths from different parts of the world. Some educationalists like Paulo Friere have warned about the dangers of myths, of keeping people trapped in a world of superstition and fear (1974). However, this thesis, while acknowledging the validity of Friere's reservations, focuses on the positive role of myths as a means of structuring and encouraging imaginative thought. The chapter opens with a reflection on how myths were and still are stimulated through reacting to environmental happenings and shows how myths are part of both the modern and ancient world. A number of myths from different parts of the world are re-told to illustrate a variety of explanations for origin and existence. The discussion closes with a brief exploration of the role of story and fairy stories in particular in assisting children to structure thinking and the significance of the content of myths for the emergence of natural philosophy is outlined in the conclusions.

2.2 Myths and Environment

As imaginative, dramatic stories filled with fantasy, one of the central roles of myths is to offer explanations for the existence of the universe, of all forms of life and address how and why it all began. Myths are a schematic ordering of otherwise unintelligible experience and represent a search for a key to unlocking the mystery of the universe. With the emergence of science as a distinct discipline, they have been variously described as 'childlike', 'irrational', 'primitive' and 'fictional'. However, recent scholars acknowledge the value of mythologies as part of the universal human experience. Harpur asserts:

> Myths are imaginative templates which, when laid over
> the world make sense of it. We cannot think without
> them, because they provide the structures which
> determine the way we think in the first instance (2002,
> p.74).

All societies have myths that provide one means of structuring thought. Myths express the world-view of different communities and give an order to their universe. This order gives a framework through which conceptual thinking can take place. Levi-Strauss claims 'it is absolutely impossible to conceive of meaning without order' (2002, p.9). This desire for order in the human mind he relates to the connection between the human mind and the universe that he views as an ordered universe not chaos. The first known west European critical thinkers, the natural philosophers, were influenced by the myths of their culture. Traditional children's stories share many of the features of mythical stories as they are often related orally, they deal with binary opposites such as good and evil and possess a timeless quality as exemplified by the fact that one of the dominant traits is the opening 'once upon a time'. The idea of a beginning or origin is in itself a myth. There is no scientific proof of such a happening. Harpur (2002, p.110) claims the idea of beginnings is one of our most popular myths and myths begin with 'once upon a time' to indicate that there are no literal beginnings, only myths about beginnings.

The ability to reflect, imagine and create stories is a crucial human characteristic and has been part of all human cultures and societies. Wondering about the world, the coming and going of daylight, the moon and the stars, how and why seasons change, how humans evolved, how to live in this space and relate to others and the possible purpose of it all, is not a new pursuit. Origin and existence are common themes found in myths and are of particular interest to this thesis. Many of the ancient myths, traditional children's stories and our modern stories represent reactions to our environment.

In Reggio Emilia in Italy, where over the past sixty years a very interesting early-years system of education has evolved, a strong emphasis is placed on the educational importance of the arts and the environment:

> We place enormous value on the role of the environment as a motivating and animating force in creating spaces for relations, options, and emotional and cognitive situations that produce a sense of well-being and security (Malaguzzi, 1996, p.40).

Similarly curricula throughout the world stress the role that the environment can play in education. There is a strong argument to be made in support of children's direct contact with the elements of the weather in order to learn about nature's time. As De Bourgoing notes:

> Today we distance ourselves more and more from nature's time. Central heating removes our sensitivity to cold weather, electric lighting frees us from night and the urbanization that absorbs more than half of the world's population removes people from the rhythms of the natural world. Time systems are also increasingly detached from nature, as the calendar grows more abstract (2001, p.97).

With increasing unified order being imposed on societies through the forces of gobalization, the earth, time itself and space become depersonalised. There is therefore need for a balance between imposed order and personal autonomy for groups and individuals within that order. Harpur addresses this point:

> Depersonalization is a kind of despair, and more
> common perhaps than we suspect. At the same time it
> deprives the world of depth, rendering it flat and without
> perspective. I am struck by a pang of fear that I am,
> Westerners may be, so far depersonalized as a matter
> of course that we are only half alive (2002, p.282).

It is through our intuitive responses to our environment that we can learn to respond, learn language and, through language, to think. Who are we? Why are we here? These are fundamental questions to all people and cultures. It is in myth and story that people find identity. Myths represent a search for truth, a love of wisdom and a desire to understand. Science, rather than dismissing myths as mere fantasy, is now using at least some of them as the link into scientific investigation. For example, there is the story of Noah and his Ark and the Incas tell of a great flood called the *Pachakuti*. Such events were explained in terms of the anger of the Gods. Scientists now say that there was a catastrophic cosmic event around 7000 BCE that caused massive flooding throughout the world with about ten per cent of the land-mass disappearing below sea level. This event may also be the foundation for the story of Atlantis referred to in the works of Plato (*Critias*1989). It was without doubt a traumatic time for the peoples of earth and the event may have became woven into their myths.

2.3 Myths: Ancient and Modern

Myth, *mythos* for the Greeks, was the antithesis of *logos*, reason and logic. *Mythos* was associated with the spoken word that Greek poets imagined as a bird fluttering from one person's lips to another's ears (McLeish, 1996, Introduction, v). Myths address those perennial questions that have puzzled humanity for centuries and, among their other functions, they offer explanations as to how the universe, humans, animals and creatures acquired their shape and physical features. They also create the opportunity to reflect on the dilemmas and emotions of human life such as trust and betrayal, good and evil, hope and despair.

Levi-Strauss in *Myth and Meaning* highlights the significance of these stories and of the people who created, told and re-told them. He claims that these people, whom we usually consider as completely subservient to the need of not starving, of continuing to subsist in very harsh material conditions, were perfectly capable of disinterested thinking

> That is, they are moved by a need or a desire to understand the world around them, its nature and their society. On the one hand, to achieve that end, they proceed by intellectual means, exactly as a philosopher, or even to some extent a scientist, can and would do (2001,p.12).

Having made this claim, he is critical of the *'illusion'* of understanding the universe. Myth, he maintains, gives man the illusion that he can understand the universe and that he *does* understand the universe. Levi-Strauss (2001) warns of the misconception of trying to read myths as one reads a modern novel or newspaper where sections or chapters can be studied in isolation to the whole. To understand myths, he claims, we need to see or hear them as a whole since dissecting them line-by-line will lead us to miss the point. Myths need to be read in their totality and he makes the comparison with an orchestral score. It is not something to be read stave by stave but to be heard as a whole. Similarly myths need to be heard in their totality to enable the audience to grasp their central meaning.

An example of modern myth is featured in Roland Barthes's *Mythologies* (2000), a collection of essays, written one per month between 1954 and 1956 on topics inspired by current events. According to Barthes 'myth is a language' (p.11), a way of telling about an event:

> What I mean is I cannot countenance the traditional belief which postulates a natural dichotomy between the objectivity of the scientist and the subjectivity of the writer, as if the former were endowed with a 'freedom' and the latter with a 'vocation' equally suitable for spiriting away or sublimating the actual limitations of their situation. What I claim is to live to the full the

contradiction of my time, which may well make sarcasm
the condition of truth (p.12).

Barthes claims that everything can be a myth. He does not view myth as confined to the medium of oral speech but argues that it can include photography, cinema, reporting, and sport. Today's stories are tomorrow's history and in due course become part of the myths of a particular people at a particular time. Indeed many of the myths from the ancient world, are preserved in stone carvings, cave paintings and porcelain figures. The paintings found on Cucuteri vases (4000 BCE) portray one explanation of the formation for the world and the beginning of life. At the centre of the painting is an egg in which a germ is ensconced. Two snakes or fawns orbit the egg. The animals are always positioned in opposition, creating a tension that in turn triggers life (Gimbutas, 1989).

As well as providing an explanation for origin, myths provide people with a framework for organising their thinking, for understanding the world and the universe and their place and role within it. Barthes, Harpur and Levi-Strauss claim the world we see is the myth we are in and that myths have a part to play in the lives of humans in the past, present and probably the future.

2.4 Origin Myths Re-told

One of the most common themes in mythology is cosmogony, the origin and maintenance of the universe and the concept of a beginning is omnipresent. It is part of the search for identity and a desire to understand how and why existence began. In a more acute way it is the dilemma that is faced by people who for many reasons become displaced in the world. Refugees, emigrants and many others can spend a lifetime searching for identity. Egan (1992) points to the fact that 'the lore that binds a tribe together, and helps to establish each individual's social roles and very sense of identity, is coded into myths' (p.10).

The concept of origin is central to this work and the author is fully aware that this position is not in keeping with modern theoretical physics that questions

the validity of such a concept. Stephen Hawking (in Coles. P, 2000) for example has proposed alternative theories to the beginning of the universe. However, while acknowledging the value of Hawking's perspective, one has to be mindful that the culture of the children participating in the research reported in this thesis is very accepting of the ideas of origin and of the specifically Christian interpretation of creation. To appreciate the characteristic qualities of origin myths, a number of them from different parts of the world are re-told below to embed the work of the natural philosophers in chapter three and the children's thinking in chapter five. The Babylonian, Yakama, Norse, Finnish, African, Indian, Japanese, Inca, Oceania, Greek and Celtic origin myths are summarised as representative of the five most inhabited continents today. Their variety displays the difference in their story, the influence of the local environment while maintaining the worldwide curiosity around origin. This universal interest in common questions is a central theme in this thesis which points out that children as well as adults can engage with these questions, thereby enhancing their cognitive development.

Since myths derive from an oral tradition, in the past they were often told in poetic form to aid the memorizing and re-telling of them. They were told and re-told for centuries and in time they came to be written and re-written. They have no authorship and a number of sources have been researched in this re-telling (Evans and Millard, 1986; Graves, 1997; Mac Cana 1970; Mc Kenzie, Prime, George and Dunning, 2001; Mc Leish, 1996; Neeson, 1998; O'Rahilly, 1976; Reeves, 1987, Rolleston, 1994; Young, 1995). The selected myths focus on the origin of earth and thus water is a common feature in many of them, which is hardly surprising since the earth's surface is comprised of seventy per cent water. Water as a primary substance, as the beginning of life, is a common theme as can be seen in the following example from North America.

> For the Yakama people of North America everything was water in the beginning and when the Great Chief Above decided to make the earth he did so by making it out of mud and allowing it to harden into land and rock. He made everything there is on earth, the fish, the animals and the vegetation. Then he made

man and told him to live off the earth. The man became lonely and so the Great Chief Above made woman. Time passed and the man and woman quarreled. Mother earth was angry with them and shook the earth so hard that the mountains fell down into the rivers making waterfalls and lakes. Many were killed in the process. Someday the Great Chief Above will restore the mountains and the spirits of those killed will return to their bodies. No one knows when this will happen (McKenzie et al, 2001, p.17).

This creation myth provides the foundation for religious beliefs such as animism, the idea that everything on earth is alive. The Inca people of southern America also have water and a great flood as central to their understanding of existence and like the Yakama people they had a strong, vengeful God.

The god Viracocha created the world that was dark, without sun, moon or stars. Then he created a race of giants, but decided that they were too large, and instead created men of his own size, like those of today. But they lived in darkness. Viracocha intended that the people he had created should know him and serve him. However after a while they started to develop the vices of greed and arrogance. He became angry with them and turned some of them to stone. Others were swallowed up by the earth, or by the sea. He then sent a flood, called a pachakuti, which means 'a turning around of the world'. It rained for sixty days and sixty nights, leaving hardly any trace of the landscape and the living things that had been there before. After the flood, Viracocha decided once more to populate the world, only this time he would make it more perfect. He went to an island in Lake Titicaca, and there ordered that the sun, moon, and stars should emerge. Viracocha then left the island and went to the ancient ruins of Tiwananaku, where he drew on stones the peoples of the various nations he wished to create. He then travelled the land, ordering people to appear. Some emerged from the lakes, some from the springs, others from valleys, caves, trees, stones and mountains. These people multiplied and formed the different peoples of the Andean region (Graves, 1997, pp. 442-3).

This powerful God, Viracocha, drew images that became concrete forms, implying the concept of humans was created before they became a physical reality. The unity of things, this symbiosis, is also central as humans emerge from features of the local environment. In the Oceania myth from Australia, elements of creation are named and, by being named, acquire life and become part of the story of the people.

> Long ago in the Dreamtime, or Storytime, the ancestral beings came out of a flat, featureless landscape. They had many forms: usually they were animals or birds, kangaroos, crocodiles, snakes, emus and hawks, but they were also insects, plants and even hollow logs, clouds and rain. Sometimes they took human forms and often they were giants. Travelling across the land, hunting and gathering, they made and named all of its features, each of their actions leaving a mark. Where the great ancestral snakes wriggled, rivers were formed; where the ancestral dingo curled up to sleep, a deep bowl was left in the land. The ancestral Emu egg became a giant rock, and where an ancestor stuck his spear into the ground, a cabbage palm tree was made. When they had made the land, the ancestors 'sat down' into it, their resting places becoming sacred sites. Each became a totem for the clan responsible for taking care of that part of the land and its 'story places' (McKenzie et al, 2001, p.143).

The flat, featureless land of the Oceania myth is also present in the Norse myth where there is a great emptiness, *Ginnunagagap*. The Norse myth too defines and describes the universe.

> The Norse people conceived the cosmos as three circular planes, like plates, suspended one above the other with space between. The highest one was Asgard, the world of the gods. Migard, middle earth, was were the humans lived. Before the world existed there was a place of ice and snow in the North called Niflheim. The South was an area of flames and fire named Muspell. Between them there was a great emptiness known as Ginnunagagap. When the ice spread near to the heat of Muspell it began to melt and from the melting drops the frost giant, Ymir and a huge cow, Audumla were formed. When Audumla was licking the ice one day she came upon the figure of a man. In three days she had freed him. His name was Bor who married Bestla and they had three sons, Odin, Vili and Ve. These were the first gods. One day while out walking by the sea, Odin, Vili and Ve found the roots of an ash and an elm tree and made the first humans from them. The ash root became the first man, Ask and the elm root became the first woman, Emlba. On the bottom level was Niflheim, the underworld, a cold place, dark and home to the goddess Hel (Evan and Millard, 1986, p.11).

Again the connection between human and other life forms is found in the notion of human life being created from particular trees. An egg or seed containing all the particles of existence is present in a number of the myths from around the world as can be seen in the following Finnish and Indian myths.

In Finnish mythology, Luonnatar, the daughter of nature, was lonely and unfulfilled. She dived into the sea and was made fertile by the foam. But, having no place to rest where she could bear children, she continued to float, in torment, for seven centuries. Eventually a teal, looking for somewhere to nest, settled on Luonnotar's knee, which projected from the water. The duck built its nest and laid seven eggs. When Luonnatar moved, the eggs rolled into the sea and down into the abyss. There they were transformed into the stuff of the universe. Their bases formed the earth, and their upper parts the heavens. Their yolks became the sun and their white the moon. The spots on the shells became the stars. Other fragments formed the clouds. Finally Luonnatar fashioned the shoreline, the ocean bed and the mountains to support the sky. Now she had somewhere to rest and have children (McLeish, 1996, p.364).

In one version of the Indian creation story, the universe grew from one of the countless seeds emanating from the body of Vishnu, floating in the Ocean of Creation like clusters of bubbles. Each seed became a golden egg, into which Vishnu entered as the Purusha, the Cosmic person. His mouth became speech, his nostrils became smell, his eyes became sight, his legs became movement, his veins rivers and his heart became mind. Another account attributes the creation of the universe to the god Brahma, who was born from the navel of Vishnu. Brahma made the planets and stars and all the thousands of demigods, each of whom was given charge of a particular part of the cosmic order. However, powerful as the demigods are, behind them lies Vishnu, and it is he who creates and controls all. Without him they can do nothing (McKenzie et al, 2001, p.97).

Japanese myths focus on the co-existence of man and nature and the need for harmony between them. These myths influenced Buddhism and emphasise the need for balance between the natural and the human world. The most popular deity in Japan is the goddess Amaterasu. She was born from the god Izanagi who together with the goddess Izanami created the land and particularly the islands of Japan. Izanami gave birth to the gods of natural forces, such as wind and fire, before departing to the underworld.

This awareness of nature and the environment is also central to some African myths. The interactions between life forms and the personification of the earth

and the sky explain how things came to be where they are. Art was the traditional African medium of keeping cultural records. From the Yoruba people of Nigeria comes the story of the difference between the sky and the earth.

> Long ago, Earth and Sky went hunting and caught a bush rat. They argued over who should eat it, until Sky was offended and went high up, far above the Earth and stayed there. As the sky was far away, the rains stopped and there was famine on earth. The animals of the bush sent the vulture up to the Sky with a dead bush rat as a peace offering. Sky accepted the gift and sent back a bag of magic powder. Whenever they would scatter a tiny amount of this powder, rain would fall. Vulture carried the bag back to Earth but, on the way, a gust of wind scattered the powder into the air all at once. Black clouds covered the sun and a great storm devastated the Earth. When the storm was over, the animals of the bush beat Vulture around the head. Since then, the Vulture has had a bald- head, is not welcome among other animals and has to eat their leftovers (McKenzie et al, 2001, p.85).

A Yoruba myth tells how God protected the first humans, who lived in the ancient city of Ife, now Nigeria. The Yoruba believe that Ife is the centre of the world and that from here humans spread out across the planet.

> Originally all humans spoke one language, were of one colour and were equal in every way. They became bored and complained to God asking him to make them different from each other. God warned then this would lead to strife but they took no heed. So he agreed to their request and, as the God had predicted feuding ensued. Thus the human population was divided into different tribes and races, each with their own language, and they were scattered around the world (McKenzie et al, 2001, p.87).

As with the Bible story of the Tower of Babel or the story of Adam and Eve and the Garden of Eden, the Yoruba myth reflects a common theme of a perfect time before disharmony arose and led to the present condition of man. In the Babylonian myth, the internal strife that takes place between Gods in turn leads to creation.

> In the beginning there were two gods, Apsu and Tiamat. Apsu was the god of the freshwater and Tiamat the god of the saltwater. Together they produce many more gods, one of

whom is Ea, the god of wisdom. He produced a son, Marduk. However internal strife occured with Ea destroying Apsu. In the subsequent cosmic battle, Marduk and Ea split Tiamat's body in two, forming heaven and earth. From her body Marduk also created the star formation, the Milky Way, and from her eyes flowed the rivers Tigris and Euphrates. The other gods were so pleased they allowed Marduk to become the supreme power. In order to allow the gods to live lives of leisure, Marduk created a human to do the work of the gods (Graves, 1997, p.49).

Several of the themes referred to are present in the myths of Greece. No other mythology, developed or primitive, ancient or modern, is marked by quite the same sophistication as that of the Greeks. It is rich in the variety and detail of characters and complexity of story. An original substance, creation seeds are all cited and with them an underlying logic or reasoning is present. Within the imaginative labyrinth there is a justification for why things are so. That fire, being the lightest of elements, rose to become the heavens is an example of this. As with many of the other myths, water is seen as central to life.

Before anything existed there was a dark nothingness called Chaos. It was neither liquid, solid nor vapour but a mixture of all three. Everything was a shapeless mass, in which were hidden the seeds of everything that was to be. Gradually the shape of Mother Earth emerged from the emptiness and formed the world. Earth had a son, Uranus, who was the sky. Of all the elements that made up chaos, fire was the lightest, and so fire rose up highest and formed the heavens. Earth sank down but was held up by the ocean. Rain fell from the sky onto the earth, making plants and animals appear. Creatures started to appear. Among these were the Cyclopes whom Uranus banished to the underworld. Later some human shaped giants called Titans were born. They became the first gods. Finally Earth gave birth to the Golden Race who lived in an age without trouble or wars. There were no children of this race and so the race died out although their spirits stayed on earth to protect and help people. It was to Prometheus the titan and his brother, Epimetheus, that the gods requested the making of man. They made all of the creatures on earth and to each a special gift. The tiger was swift, wings for the birds, fins for the fish etc. However they ran out of gifts when it came to man. To solve the problem, Prometheus went to the Heavens and stole fire from the sun and with this gift man gained control over all the other creatures on earth. With fire, man could make weapons (Graves, 1997, pp.87-88).

Locating an Irish origin myth proved quite difficult despite the very rich corpus of legends and story emanating from the island. How the island was formed is not part of the common myths. McLeish observes that with the exception of India, creation-stories are sparse in countries where great religions thrive (1996,p.130). However, *Celtic Wonder-Tales* by Ella Young (1910; republished 1995), and illustrated by Maud Gonne, the muse of W.B. Yeats, provides a story entitled 'The Earth Shapers'.

> Dagda, the most powerful God in Celtic myth, was God of both life and death. He was also God of plenty and presided over a cauldron with a continuous supply of food. He was father to Brigid and two other goddesses. In Tir-na-Moe, the Land of the Living Heart, Brigid was singing. Angus, the ever-young, talked of dreaming of strange worlds and hearing singing but not that of Brigid. She in turn explained it was the Earth singing. Dagda warns the Earth is a pit of chaos with black hissing waters and surrounded by monsters. The Earth wails all night because it has dreamed of beauty. Brigid decides to encircle the earth with her mantle because it has dreamed of beauty. Dagda, Midyir, Ogma the Wise, whose other name was Splendor of the Sun, Nuada and Gobniu all agreed to accompany Brigid. They brought gifts from their De Danaan world and with them fought the writhing, contorted, hideous life that surrounded Earth. They made space for Brigid to spread her mantle. It would have kept rolling itself over all of the earth but that Angus leaped down and stood with his two feet on it. It became a silver mist about him. The Dagda sowed emerald fire over the space of the mantle. Brigid laid the Stone of Destiny on the green grass and as it sank water filled the hollows making the lakes and rivers. 'Ye shall call it the White Island' Brigid said, 'and its other name shall be the Island of Destiny; and its other name shall be Ireland' (Young, 1995, pp. 3-11).

The source of Irish origin myths is the *Leabhar Gabhála, The Book of Invasions,* dating from the eighth century CE. As well as dealing with creation and the beginning, death was a theme, the binary opposite for many of the stories of the world. The idea of a mythic region where the ancestor of mankind reigns over the dead, belongs both to Greek and to Celtic mythology. The Irish creation myth makes this a starting point for the creation of people. The first ancestor of the human race is the God of the Dead who inhabits a region across the ocean, situated to the south-west of Ireland, where the sun sinks to

rest during the greater part of the year - a wonderful realm whose delights far surpass those of this world. It is known as the Tír Beo, the land of the living.

> Partholon, son of Baath, ie of the sea, was the first man to arrive in Ireland bringing with him one thousand followers both men and women. Their number increased until there were four thousand of them. However a plague struck them and all but one perished. There is no record of discussion of the origin of matter but when Partholon arrives in Ireland there were only three lakes in Ireland, nine rivers and one plain. The children of Partholon cleared the ground to allow growth to take place. 'Ní frith frem na flesc feda'; 'neither root nor branch on this plain'[1] Thus three more plains and seven more rivers came into being. The people named specific features and places on the island and thus a symbiotic relationship between place and people emerges (Rolleston, 1994, p.96).

2.5   Common Themes in the Myths

In reading myths on origin from around the world, origin and the explanation of an original substance from which everything emerged is a constant theme. Water is central to many of the explanations of existence. Light and darkness appear both in their physical manifestation and as symbols of good and evil respectively. The tension and conflict between binary opposites are often the source from which life evolves. Man / woman, sky / earth, and ice / fire are but some examples. In certain cases the universe evolves from strife and cosmic battles while in others, opposites had to come together to cause creative fusion. New beginnings evolve from both processes. For some there was a perfect time and existence, as in the Yoruba myth in which all people spoke one language and were one skin colour. The Greek myths recall a golden race that died out, echoing the Australian concept of a time before time called Dreamtime from which people awake into a reality. This theme also occurs in the Bible story of the Garden of Eden and the fall of Adam and Eve. Crafts such as pottery, painting and woodcarving are all mentioned in the creation process. The concept of an egg or a seed holding the elements of the universe within it occurs in the mythology of different parts of the world. The Finnish,

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[1] Poem by Eochaid Ua Flainn, Book of Leinster, p.5, col. 2 line 48 (De Jubainville,1903, p.16)

Slavic and some Indian myths contain such concepts. The Greeks and Celts speak of a dark Chaos, a shapeless mass, from which an ordered universe was born.

All of the myths seek to explain existence through a symbiotic order in the universe. By understanding this order the key to unlocking the mystery of the universe was sought. Many of these stories give detailed physical descriptions of the shape of the universe with the three dimensions of a heaven or world above in the sky, the middle world, the earth, where humans reside and an underworld, which is dark and fearsome. In the Norse myth, this latter area is the home of the goddess Hel. In Inca myths, features of the earth are brought into existence by being drawn and in Oceania and Celtic myths by the naming of them. It is worth noting the influence local geographical environments had on particular myths. Hunting in the bush, drought and the vulture all play their part in one of the African creation myths. In the Oceania myth, the earth was flat and featureless until the first creatures interacted with it. Where the ancestral dingo curled up to sleep, a deep bowl was left in the land. The ancestral Emu egg became a giant rock. The clearing of stones and shrubs from land to render it suitable for cultivation is a feature of Celtic lore. Myths are part of particular geographical areas; they are peculiar to specific peoples and reflect the environment of which they are part. Even though there are universal aspects to them, each is distinct. If, as Harpur claims (p.39), myths lend structure to thinking, then the stimulus for thinking in these incidences has both universal and particular aspects. There is a global human interest in the physical world and in human existence and origin. The importance of this for the present study is that mythic understanding was the context from which western philosophy first emerged.

Binary opposites, water as the origins of existence, a natural order, a seed or egg holding all the ingredients of all life form and animism are all found in the origin myths from around the world. These themes are emphasized since they re-emerge in the thinking of both the natural philosophers and the children who participated in the fieldwork. Their presence in myths is significant to understanding the evolution and content of early western philosophy. The

natural philosophers too sought to unlock the mystery of the universe; however, their search opened a new path in thinking and understanding.

2.6 Children and Fairy Story

From the myths of Greece came the thinking of the natural philosophers. Both have their origins in oral traditions. Fairy stories play a similar role for the thinking of children. They come from an oral tradition and also offer the opportunity to think beyond immediate reality. Marina Warner argues that storytellers can break through the limits of accepted thought to challenge conventions. She believes that,

> Fairytale ... offers a way of putting questions, of testing
> the structure as well as guaranteeing its safety, of
> thinking up alternatives as well as living daily reality in
> an examined way (Warner, 1994, p.410).

Warner claims the greater purpose of such stories is to map out a different way of thinking 'thus advocating a means of escaping imposed limits and prescribed destiny' (ibid.). Hence, just as myths influenced and made possible the origin of philosophy in Western Europe, so fairytales have the potential to assist children in thinking critically and imaginatively - a process Egan terms mythic understanding. This thesis argues that young children can be mythic thinkers, story makers and natural philosophers. Alasdair Mac Intyre claims that the ability to follow stories is connected with the ability to make sense of human experience. He contends that our lives are intelligible only within narratives, observing that 'man is in his actions and practice, as well as in his fictions, essentially a story-telling animal' (1981, p.54).[2]

Storytelling and play are the corner stones of early-years learning and young children can be both the recipients of story and the storytellers. In story they discover both language and culture. Margaret Meek in *On Being Literate* (1991) concludes; 'if we are to understand the relation of storytelling to literacy,

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[2] Oscar Wilde's mother, Speranza collected stories told to her husband, a doctor, by poorer patients in place of payment. They were the influence from which 'the Selfish Giant' and 'The Happy Prince' came.

we must see the value and nature of narrative as a means by which human beings everywhere, represent and structure the world' (p.103). Storytelling, according to Colwell (1991), is a force in the modern world as it was in the ancient world. Just as myths, a form of story, give a framework for thinking and understanding, so too stories provide a framework for children's cognitive development. Through the medium of story, children can learn structures for their thinking and, through narrative, connections can be made between otherwise un-related pieces of information which can in turn be stored in one's memory for longer than if they were acquired piecemeal (Cooper and McIntyre, 1992; Howe, 1999 p.37; in Grugen and Gardner, 2000 p.58). We are narrative by nature, according to Barbara Hardy:

> We dream in narrative, daydream in narrative,
> remember, anticipate, hope, despair, believe, doubt,
> plan, revise, critize, construct, gossip, learn, hate and
> live by narrative (1968, in Egan, 1997, p.59).

Children in many European countries enjoy the excitement, the tension and the dilemmas of fairy-stories, sometimes referred to as wonder tales, for example Red Hiding Hood, Cinderella, the Three Little Pigs and Sleeping Beauty. Many similarities characterise the structure and ideas in these stories and in the great myths. They all deal with powerful forces in conflict and contain creatures of fantasy. The myths are populated with minotaurs, titans, dragons and unicorns. The traditional stories feature bears eating porridge, talking wolves and people sleeping for one hundred years. There is vivid presence both in terms of actions and of the impossible. What happens in the fairy-stories and in myths is beyond the realm of daily living. Reality is suspended in order to enable the reader to partake in and enjoy the story, and thinking and imagining beyond the present and the immediate is invoked. This is a source and an opportunity for abstract thinking as imagination mediates and transcends the actual into fantasy. Fairy-stories, myths and philosophies are universal bonds of humanity and although they have common bases, they also have distinctive tools or processes of thought. It is through story and, it will be argued, by philosophising that children enter into this universal bond.

To imagine, to wonder, to participate in the abstract are all prerequisites to doing philosophy. To think in the abstract is to consider something set apart, to draw it away from its normal surroundings. This capacity for disembedded thought is essential to school success according to Margaret Donaldson. As noted in chapter one, she suggests that the rational powers of young children have been underestimated (1978, p.56). She poses the question what are schools doing to utilize this ability? Just as myth was the source from which philosophy grew, so story, both formal and informal, oral and read, is a source for doing philosophy with children.

Dunne observes that it is possible to witness, 'in children something of that original bond with being that Heidegger discerns in the Presocratics' (1998, pp17-18). It is this 'bond with being' that is central to the present work. C.S. Lewis also acknowledged this:

> When I was ten, I read fairy tales in secret and would have been ashamed if I had been found doing so. Now that I am fifty I read them openly. When I became a man I put away childish things, including the fear of childishness (1973, p.234).

This chapter has demonstrated how through the media of myths and fairy-stories, thinking acquires structure and order. Within this structure questions can be posed, different possibilities can be imagined and difficulties and dilemmas can be de-centred and abstracted into underlying principles aimed at seeking solutions. From this ability to organise and structure questions came a new approach to thinking and seeking answers, philosophy. Identifying the characteristics of Western proto-philosophy is one of the central questions of this thesis and chapter three is dedicated to exploring the evolution of rational thinking from mythic thinking.

2.7 Conclusion

Western philosophy began in Ionia, in the city of Miletus on the Aegean coast of Asia Minor. Thales (625-545 BCE) marked a significant departure in understanding the natural world. The Greek and Babylonian myths were the framework from which this reasoning evolved. What Thales and the other natural philosophers had in common with the poets and sages who had gone before them was the desire to understand the world, how it functions and the underlying principles of existence. What distinguished these early thinkers was not that they began something new in terms of content; rather it was their process and particular approach to that understanding that marked a significant beginning. Myths are imaginative and creative and are full of fantasy. Equally philosophy can be imaginative and creative but it also demands reason. *Logos* was central to reaching the truth by purely intellectual processes of reduction and elimination of the inessential. One of the central questions for the early philosophers concerned the *principium*, the primary matter from which everything else evolved. This question was not new as can be seen from the myths. The crucial difference was in the thinking. Not only did the philosophers want to understand; they strove to prove their arguments through reasoning. In the work of the philosophers to be investigated in detail in chapter three, it will be shown how their processes of thinking involved reflection, thoughtfulness and a questioning spirit as well as metacognitive approaches. The natural philosophers are a benchmark in the evolution of thinking in western society as they had the courage to think beyond the myths of their time. They are the first known critical thinkers in western European society. The next chapter will explore the natural philosophy that emerged from Greek mythology over two and half thousand years ago and created a revolution in thinking and understanding.

Chapter 3:
The Natural Philosophers

3.1 Introduction and Background

The sixth century BCE is one of the periods in history most remarkable for intellectual and consequently many other changes. This was the era of Confucius, Budda, Lao-tse, the Ionian philosophers and Pythagoras who inhabited the region that spanned from China to Samos on the Aegean Sea. These men influenced the direction of thinking until the present day. Among them the Ionian philosophers, Thales, Anaximander, Anaximenes and Xenophanes are of particular interest to this research, as they were, as far as is known, the first to develop a new kind of thinking in Europe.

By the sixth century BCE, as city-states thrived along the Coast of Asia Minor on the Aegean Sea, their populations engaged in a significant level of commercial and cultural interaction with their counterparts in Egypt and other countries. As a consequence, ideas and stories were also exchanged. Although seafaring was essential to their livelihood, many Ionian people sustained a settled and sophisticated society with a wealthy elite. Isonomy, that is, equality before the law of the state's citizens, which allowed broad sections of citizen society to acquire an effective political voice, was realised in Athens through the reforms of Cleisthenes before the end of the sixth century BCE. It was a participatory democracy with a council of five hundred, a rotating membership and restrictions on re-election, whose assembly could have over six thousand in attendance. Votes were rarely counted but estimated in an approximate way, and the whole process often involved the abstract analysis of concrete situations. Issues concerning city life and the law were discussed and deliberated on. Oral argument and persuasive ability were pre-requisites for participation. Although a sizeable number of free men did succeed in gaining a voice in the affairs of state, many, such as women and slaves, were excluded. Thales, one of the natural philosophers, advocated the unification of city-states to create larger units (Dahl, 1989; Dunn, 2001; Thomas, 1989).

A number of factors related to these emerging democracies stimulated philosophical thought: ideas and concepts of government and justice, the language of rhetoric and argument and the availability of the provision of a forum for the sharing and practicing of these concepts and skills. Much of the general vocabulary that Greek philosophers utilized for evidence and for testing theories came from politics and the law and as Dunn remarks, all theory, whether in political philosophy or elsewhere, may be said implicitly or explicitly to involve an element of abstraction 'the concentration on essential aspects of the data to be explained to the exclusion of other features considered to be accidental' (2001, p.52). Significantly there was an acceptance that anything could be discussed and any argument could be presented for decision by a democratic vote in the sovereign assembly. The fact that it was a participatory democracy is important, in so far as it suggests a deep-rooted belief in justice and the desire to establish truth. There was a right to appeal magistrates' unjust decisions and many citizens conducted their own litigation. Reasoned argument was the means whereby such a process was carried out. Another core value within this society was autonomy. Politics was the expression of the freedom to participate in ordering one's own life. These are the fundamental elements of Greek democracy that were evolving and which helped create the climate for the birth of western philosophy. Critics have commented on the similarities and differences between China and Greece at this time. Many new ideas in thinking were emerging in China during the sixth century BCE also but they were often presented in the guise of a rediscovery or a correct interpretation of earlier explanations.

Critics like Dunn (2001) suggest that this difference stemmed from deference to the unquestioned ideal of imperial rule. Solutions and answers to questions needed to be absolute whereas the democratic processes of the city-states opened up questions to a multiplicity of possible answers. While democracy was emerging in the city-states, so too was writing by means of an alphabet, the Phoenician alphabet being introduced into Greece around 700 BCE. The Greeks in turn added vowel sounds and it was from this alphabet that our present day alphabet evolved. In many senses, therefore, it

was a vibrant period within which western philosophy, a new way of thinking, began.

While the early philosophers attempted to formulate a systematic account of the known universe and its features, they were not the first to do so. Well before them, in the eighth century BCE, Hesiod in his poem *Theogony*, had classified the Gods into a structured and coherent scheme. But although Hesiod had linked events to form concepts - for example he had understood night gave birth to death and sleep to dreams - he did not make the leap from *mythos* to *logos.* This was the achievement of Thales with whom western philosophy began. A citizen of Miletus, he lived from about 625 to 545 BCE and is the first of what became known as the Milesian or Ionian thinkers.

The early philosophers or natural philosophers concentrated on cosmology, meteorology and original matter. Early philosophy can be divided into three general periods starting with the Ionian thinkers, Thales, Anaximander, Anaximenes and Xenophanes who were followed by Pythagoras and Heraclitus, also identified with the first period of philosophy. Parmenides who came from Elea, a Greek foundation in southern Italy, was the founder of what became known as the Eleatic school of thinking while Empedocles, Anaxagoras and the other atomists are referred to as the post-Eleatics. Though these demarcations, Ionian, Eleatic and post-Eleatics, are not without limitations, for the particular purpose of this study, they provide an adequate framework to understand how philosophy evolved.

The common thread that unites pre-Socratic thinkers is their rational approach to understanding the world and the universe as reflected in their word *kosmos* meaning an order or arrangement. This philosophical order is distinguishable from the mythic thinking that preceded it by virtue of its search for a scientific explanation for existence rather than the acceptance of creation as the work of the Gods. This is not to claim that the natural philosophers were atheists but rather that they asserted their autonomy to

understand through thinking and argument instead of conventional beliefs. Johnathan Barnes emphasises that the significance of these philosophers is not that they made good arguments but that they presented arguments at all. The fragments of the Ionian philosophers are 'peppered with such inferential particles' such as 'so', 'therefore' and 'for' (Barnes, 1987, p.23) leading Barnes to conclude that Presocratic writing wears its rationality on its sleeve and as Aristotle recognised:

> People both now start and in the beginning started to do philosophy because of wonder. At first they wondered about the obvious difficulties and then they gradually progressed to puzzle about the greater ones, for example, the behaviour of the moon and the sun and stars and the coming to be of the universe. Whoever is puzzled and in a state of wonder believes he is ignorant (that is why the lover of myths is also in a way a philosopher, since myths are made up of wonders). And so, if indeed they pursued philosophy to escape ignorance, they were obviously pursuing scientific knowledge in order to know and not for the sake of any practical need. (Aristotle, *Metaphysics* 1.2 982b 12-21; in Mc Kirahan, 1994, p.69)

Puzzlement leading to knowing through rational thought and argument is the source of philosophy. In this the natural philosophers established a new path, founded a new discipline. While the characteristics of this form of thinking never entirely died out, Europe did experience a long period in which they were largely marginalised by political chaos after the collapse of the Roman Empire. They became more commonly used in the Renaissance, the late medieval movement centred in the city of Florence, which drew much of its inspiration from classical Greece. The philosophy of humanism urged the individual to break free from the mental constraints imposed by religious orthodoxy and to engage in free enquiry and criticism. Observation of the natural world was the object of Renaissance artists and thinkers alike. The term 'Renaissance man' or 'universal man' was coined by Battista Alberti (1404-72) to express the idea of the person embracing all knowledge and striving to attain his or her potential in many areas. The thinking of the Renaissance is reflected in the works of Desiderius Erasmus (1466-1536).

Thus there is a traceable connection and influence from early philosophy to modern thinking but this thesis, while acknowledging this connection, goes a step further to claim that a more direct association can be made between early philosophy and modern education. Hans-Georg Gadamer regards pre-Socratic philosophers as a source for understanding current dilemmas in society in general and not just in education:

> This theme is not merely of historical interest. It touches on current problems of our own culture, which finds itself not only in a phase of radical change but also one of uncertainty and a lack of self-assurance. We therefore strive to establish connections to altogether different kinds of cultures, cultures that, unlike our own, did not originate in Greek culture...such an examination of the Presocratics does have relevance for us. It deepens our understanding of our own destiny.'
> (Gadamer *The Beginning of Philosophy* 2000, p.9)

This thesis contends that educationalists in the twenty first century CE can find inspiration by returning to natural philosophy. I will now investigate the subject matter and the processes of rational thought and argument of the natural philosophers to seek parallels for reflecting on the modern practice of encouraging young children to think and talk.

Fig 3.1: Locations Discussed in Chapter (www.yachtcharterclub.com - altered by Finnian O'Cionnaith)

3.2   Sources for Early Philosophy

The work of the early philosophers survives only in fragments and testimonia. A number of the natural philosophers did record their thoughts in writing but the direct quotations are found only in the doxographies of those who came later. Doxographies document the histories and opinions of the early philosophers. We are indebted to those scholars for the fragments and the testimonia providing information on the lives and ideas of these first philosophers. Some of the main sources in which direct quotations of the chosen authors are found are in the works of Plutarch, Sextus 'Empiricus', Clement of Alexandria, Hippolytus, Diogenes Laertius and John Stobaeus. Plutarch, a philosopher and historian of the second century CE, reproduced hundreds of quotations from the early philosophers in his writings. Sextus, a philosopher and physician of the late second century CE, quotes the natural philosophers on matters of cognition and the reliability of the senses. In the late second century and early third century, Clement of Alexandria, a convert to Christianity, had a great interest in the Greek philosophers and quoted from them frequently. Hippolytus, a bishop of Rome, was a contemporary of Clement of Alexandria who wrote nine books entitled *Refutation of all Heresies,* in which he connected Christian heresies with Greek philosophy and quoted widely from the Greek philosophers.

Later in the third century CE, Diogenes Laertius compiled a set of ten books entitled *Lives of Famous Philosophers,* in which some quotations or fragments are incorporated. John Stobaeus, the fifth-century CE anthologist, in his *Anthologium* includes many quotations from the natural philosophers. Both Stobaeus' and Plutarch's work were based on a common source, now lost, which was composed around 100 CE by an otherwise unknown author named Aetius. The fragments that have survived are dependent on the authors and transcribers of the texts and the context of their work. However, having a number of fragments preserved in the documents listed above has facilitated scholars in their efforts to reconstruct the thoughts of the early thinkers. Moreover, they are not solely dependent on the recorded fragments

as the testimonia of Plato, Aristotle and Theophrastus further assist them in assembling the jigsaw of pre-Socratic philosophy. Plato (427-347 BCE) was acquainted with some of the natural philosophers and his pupil, Aristotle, (384-322 BCE) had a serious interest in the history of philosophy. It is to Aristotle that we are indebted for much of what we know about the natural philosophers, notably from his *Metaphysics*. This attention to the history of philosophy encouraged three of Aristotle's students to write histories. Eudemus wrote a history of mathematics, astronomy and theology. Meno contributed a history of medicine and Theophrastus wrote widely on the pre-Socratic philosophers.

The natural philosophers selected for review in this thesis lived from 585 BCE, the year of Thales' birth, to 428 BCE, which marked the death of Anaxagoras. As this was some 2000 years before the invention of the printing press, the uncertainty of the texts must be a significant factor in any study of early philosophy. During the centuries after the era of the natural philosophers, the Greek language underwent a number of important changes. However, with an increasing number of scholars offering translations and understandings of the fragments and testimonia, a considerable corpus of literature in the field now exists.

Contemporary access to the fragments and testimonia of early philosophy is possible through a near complete collection of the surviving fragments compiled by Hermann Diels from 1934-54. This publication, *Die Fragmente der Vorsokratiker*, edited by Walther Kranz, has become the accepted authority for modern scholars of pre-Socratic philosophy. In referencing the fragments, authors refer to the DK system. This includes a numeral and letter, usually the letter 'B'. The numeral refers to the number of the fragment and the chapter in the Diels-Kranz publication. The letter B indicates a genuine quotation whereas the letter A indicates a paraphrase.

For the purpose of this work the fragments and testominia have been accessed in translation. The main collections are Waterfield (2000), Mc Kirahan, Jr. (1994), Barnes (1987), Taylor (2003) and Kirk, Raven and

Schofield (2002). Kirk, Raven and Schofield (KRS), are widely referenced by Waterfield and Taylor. Guthrie (2000), Gadamer (2000), Copleston (1960) and Sullivan (1963) are of interest for their commentaries on pre-Socratic philosophy. Waterfield, in the preface to his work, encourages readers to interpret the fragments for themselves because there is no scholarly consensus on their meaning (2000, p.x). In this thesis, translated fragments and testimonia are given a number of references to assist in cross-referencing.

3.3 The Beginning of Philosophy

Socrates is accepted as the father of modern western philosophy and his influence on subsequent philosophy is incalculable. Apart from his great influence on Plato, Socrates' contribution is two-fold: he concentrated on matters relating to the everyday lives of citizens, to conduct as distinct from physical speculation, and he applied a rigorous argumentative method to these matters. Cicero observed in the *Academica*:

> It is my view, and it is universally agreed, that Socrates was the first person who summoned philosophy away from mysteries veiled in concealment by nature herself, upon which all philosophers before him had been engaged, and led it to the subject of ordinary life, in order to investigate the virtues and vices, and good and evil generally, and to realize that heavenly matters are either remote from our knowledge or else, however fully known, have nothing to do with the good life (I.5.15, trans. Rackham in Taylor, 2003, p.323).

Socrates developed ethics and moral philosophy through dialogical engagements with his peers and students. He changed the subject focus of philosophy and developed the pedagogical approach of Socratic dialogue. Thinkers who preceded him are referred to collectively as 'the pre-Socratic philosophers', a categorisation that indicates their difference in approach and the content of their thinking rather than their chronological order. Indeed some like, Empedocles, were contemporaries of Socrates.

As indicated above, there are three general phases to pre-Socratic philosophy, beginning with the Ionians Thales, Anaximander, Anaximenes and Xenophanes who are the focus of this chapter. Their relevance to doing philosophy with children is three fold: the topics they focused on, the reasoning in their arguments and their critical attitude mark the change from thinking and understanding through myth to sovereignty of thought. The first is subject matter, natural phenomena and origin, the second is process where argument is advanced based on logic and evidence and the third is a way of being, perspective and attitude. These three aspects of early philosophy, I shall argue, are relevant to encouraging philosophy in the early years of school. They loosely translate to the areas of curriculum, pedagogy and critical spirit. The following review of the philosophy of these four particularly influential thinkers leads on to an overview of some other significant pre-Socratic philosophers in order to trace how natural philosophy evolved into academic philosophy.

The four themes under investigation in this work are origin, cosmology, meteorology and ethics. The first three cover the majority of the work of the Ionian philosophers, but the latter also reflected on ethical matters. The term 'ethics' is used in a very broad sense in this chapter. Theoretical issues relating to moral and ethical matters such as a conscious analysis of ethical language are not found in philosophy before Heraclitus and only take on a new rigour and direction with Socrates. Even for the classical Greek philosophers, 'ethics' included moral and political theorizing but it also embraced topics that would now be classified as sociology and ethnography. The emergence of the city-states fostered new styles of enquiry that consciously or unconsciously challenged and undermined common religious and moral beliefs. However, references to living a 'good life' are found mostly in the form of maxims that are not strictly philosophical dialogue but in the context of the other more philosophical comments of the chosen philosophers they are included under a very broad term of 'ethics'. Guthrie suggests than when communities are small and cultural conditions simple, no conflict is observed between moral duty and self-interest. It is as society enlarges and becomes more complex as a social unit that diversity of thought on ethical

matters comes more to the fore (2000, p.101). The works of Thales, Anaximander, Anaximenes from Miletus, and Xenophanes from Colophon are reviewed under these four themes which are revisited in the analysis of the children' discussions in chapter five.

3.4 Topics

3.4.1. Origin

The natural philosophers viewed the universe as a whole and concerned themselves with understanding the principles of the natural world and its place in the universe. Aristotle commented in *Metaphysics* that philosophy and science deal primarily with universals. Modern science still has as one of its main tasks the description and explanation of particular events through universal laws (McKirahan, 1994, p.73). The early thinkers dealt with that which is general and common rather than the private and personal. A central question for the natural philosophers concerned the *principium*, the primary matter from which everything else evolved. Thales declared it to be water, Anaximander a limitless substance and Anaximenes air.

Thales claimed water to be the primary matter and asserted that earth held its place in the universe by floating on water:

> Thales says that the world is held up by water and rides on it like a ship, and that what we call an earthquake happens when the earth rocks because of the movement of the water (Seneca, *Questions about Nature* 3.14.1.2-4 Oltramare) (Dk 11A15; KRS88; T10, Waterfield 2000, p.13).

Thales' basis for reaching this conclusion is reflected upon by Aristotle:

> Maybe he got the idea from seeing that the nourishment of all things is moist, and that the hot itself comes to be from this and lives on this (the principle of all things is that from which they come to be) getting this idea from this consideration and also because the seeds of all things have a moist nature; and water is the principle of

the nature of moist things (Aristotle, *Metaphysics* 1.3
983b 18-27 DK 11 A12 in McKirahan, 1994, p.28).

From the beginning, philosophy developed through formulation of argument and counter argument and an associate of Thales, Anaximander, disagreed with the former, claiming that the *apeiron* was not water nor any element but rather, 'a nature different from them and infinite, from which arise all the heavens and the worlds within them' (5.3 in McKirahan, 1994, p.34). *Aperion* in Anaximander's thinking meant the unlimited, boundless and indefinite. However, McKirahan cautions against *apeiron* being translated as *'infinite'* as this understanding of the term comes with Aristotle. Both Thales and Anaximander were intrigued with measurement. Thales is thought to have worked out the changeable periods of the solstices and to have predicted the solar eclipse of 28th May 585BCE. Others claim he calculated the height of the pyramids from their shadows and introduced the use of the 'Little Bear' constellation of stars as a navigational aid. Anaximander is credited with inventing the gnomon, the raised 'carpenter's square' on sundials which indicates the sun's position:

> He was the first to discover the gnomon and set one up
> on the sundials at Sparta... indicating the solstices and
> equinoxes, and he constructed hour-markers (Diogenes
> Laertius, *Lives of the Philosophers* 2.1, DK 12A1 : 5.1 in
> McKirahan, 1994 p.32).

In proposing a boundless, limitless material as the original substance, Anaximander was acknowledging that some things are un-measurable. The *principium* or *aperion* is indeterminate. Anaximenes, the third Milesian thinker, favoured Thales' approach and identified air as the origin of all things. He put forward evidence in support of his claim, stressing that air can differ in rarity and density. It is not, he claimed, a static substance but is constantly moving and therefore can take different forms:

> The form of the air is the following: when it is most even,
> it is invisible, but it is revealed by the cold and the hot
> and the wet, and movement. It is always moving, for all
> things that undergo change would not change unless it

was moving. For when it becomes condensed and finer, it appears different. For when it is dissolved into what is finer, it comes to be fire, and on the other hand air comes to be winds when it becomes condensed. Cloud results from air through felting and water when this happens to a greater degree. When condensed still more it becomes earth and when it reaches the absolutely densest stage it becomes stone (Hippolytus, *Refutation* 1.7.1-3 DK 13 A7; 6.2, McKirahan, 1994, pp 48-9).

There is one surviving sentence from Anaximenes in which he reflects on the role and significance of air. It is often claimed to be the first known use of the microcosm-macrocosm analogy (McKirahan, 1994; Barnes, 1987). Anaximenes makes a connection between the functioning of humans and that of the universe. 'As *(hoion)* our soul. he says, being air control us, so *(kai)* *pneuma* and air enclose the whole world ' (Air and *pneuma* are synonymous here.) (Aetius I. 3.4. KRS 160 in Taylor, 2000, p.65).

Taylor (2003) argues against this interpretation and questions if it is an actual quotation (Taylor, p.65). He proposes an alternative translation, 'for example *(hoion)*, it is as breath, he says, that our soul controls us, and *(kai)* air encloses the whole world' (p.65). In this case the clause about the cosmos does not express the conclusion of any inference stating the connection between human existence and the existence of the universe. The analogy may not stand but, as Taylor asserts, it certainly is an attempt to use familiar features of human existence to think about the cosmos at large and all scholars will accept Anaximenes argued air was the first principle.

While doubts may remain about the authenticity of the direct quotation from Anaximenes there is no such doubt surrounding the fragments related to Xenophanes. Four fragments, reproduced in Waterfield, give an insight into his thoughts on origin:

Earth is the source of all things, and all things end in earth (Aetius, *Opinions* 1.3.12 Diels) (DK 21 B27; F10, Waterfield 2000, p.28).

> All that is created and grows is no more than earth and water (Philoponus, *Commentary on Aristotle's 'Physics'* CAG XVI, 125.30 Vitelli) (DK 21 B29; KRS 181, F11, Waterfield 2000, p.28).

> Plainly, the upper limit of the earth, here at our feet, Abuts the aither; but below it stretches on without limit (Achilles, *Introduction to Aratus' 'Phaenomena'* 4.34.13-14 Maass) (DK 21 B28; KRS 182; F13, Waterfield 2000, p.28).

> The sea is the source of water and the source of wind; For there would be no wind without the great sea, Nor flowing rivers, nor rainfall from the aither. No, the great sea is the creator of clouds, winds, And rivers (Crates of Mallus { fr.32a Mette} in the Geneva Scholiast on Homer's *Iliad* 21.196) (DK 21 B30; KRS 183; F14, Waterfield, 2000, p.28).

Like the Milesians, Xenophanes from Colophon, acknowledged the importance of water and of a place with no limit below the earth but dismissed the notion of air as an original substance. Xenophanes did not account for the origin of the earth but rather how it functions. The two basic substances for this functioning are said to be earth and water. Earth, *according to* Xenophanes, swings from periods of dryness to periods of wetness. During the periods of wetness, the sea takes over the earth and all human life is destroyed. This is restored when the earth or land again dominates the sea. Xenophanes embarked upon a different kind of thinking, emphasising the use of evidence. In his argument on the alternate dominance of earth and sea, he cited the presence of fish fossils and seashells in mountainous regions as proof for his theory:

> Xenophanes declared that the sea is saltly because many mixtures flow together in it...he believes that earth is being mixed into the sea and over time it is being dissolved by the moisture, saying that he has the following kinds of proofs, that sea-shells are found in the middle of the earth and in mountains, and the impression of a fish and seals have been found at Syracuse in the quarries, and the impression of a laurel leaf in the depth of the stone in Paros, and on Malta flat shapes of all

marine life. He says that these things occurred when all things were covered with mud long ago and the impressions were dried in the mud. All humans are destroyed when the earth is carried down into the sea and becomes mud, and then there is another beginning of coming to be, and this change occurs in all the world order (Hippolytus, *Refutation* 1.145-6 DK 21 A33; 7.18, McKirahan, 1994, p.66).

In keeping with the Milesians, Xenophanes offered an order, a pattern to explain existence and his emphasis on rational thought and on how reality is conceived is discernable from his fragments on anthropomorphic theology. Xenophanes rejected the image of the gods portrayed in Homer and Hesiod. The following fragments build a theory that images of gods are nothing more than a self- projection by humans of their own characteristics onto the divine. To illustrate this he put forward the argument that if horses and cattle could draw gods, they would draw them like horses and cattle:

Homer and Hesiod have attributed to the gods everything that is a shame and reproach among men, stealing and committing adultery and deceiving one another (Sextus Empiricus *Adverus Mathematicos* IX.193:fr.11 [KRS 166] in Taylor, 2003, p.71).

But mortals consider that the gods are born, and that they have clothes and speech and bodies like their own (Clement *Miscellanies* V.109.2:fr.14 [KRS 167} in Taylor 2003, p.71).

The Ethiopians say that their gods are snub-nosed and black, the Thracians that theirs have light blue eyes and red hair (Clement *Miscellanies* VII.22.1:fr. 16 [KRS 168] in Taylor, 2003, p.71).

But if horses or cattle or lions had hands, or were able to draw with their hands and do the works that men can do, horses would draw the forms of the gods like horses, and cattle like cattle, and they would make their bodies such as they had themselves (Clement *Miscellanies* V.109.3:fr. 15 [KRS 169] in Taylor, 2003, p.71).

Scholars accept Xenophanes' theory asserting images of gods are an exercise in self or species projection, although there are differences of

opinion on how he conceived of god or 'the one'. The following fragment is intriguing as it could be interpreted as the acceptance of a divine being or of a higher order existence that is mind only. Such arguments re-emerge with Anaxagoras. Given Xenophanes' emphasis on the importance of reason and evidence and thus the power of the mind, it could be interpreted to mean that god only exists in the abstract, in thought:

> Always he remains in the same place, moving not at all; nor is it fitting for him to go to different places at different times, but without toil he shakes all things with the thought of his mind (Simplicius *Physics* 23.11 and 20: frs. 26 and 25 [KRS171] in Taylor, 2003, p.72).

Irrespective of one's interpretation of the detail of his work, Xenophanes is accepted as the philosopher who inaugurated both monotheism and critical theology. Taylor concludes that, without Xenophanes, it would be difficult to understand how philosophy made the transition from Milesian cosmology to the metaphysical and epistemological orientation shared by Heraclitus and Parmenides (2003, p.79). In terms of this thesis Xenophanes' comments on god will be shown as relevant to many of those comments made by children in dialogues on origin.

Anaximander is the only Milesian philosopher to deal with the origin of people and his speculation on the origin of all animals including humans is similar to the metamorphosis of the caterpillar to a butterfly; animals emerge from a chrysalis:

> Anaximander says that the first animals were produced in moisture, enclosed in thorny barks. When their age increased they came out onto the drier part, their bark broke off, and they lived a different mode of life for a short time (Aetius 5.19.4 DK 12A 30, in McKirahan, 1994, p.42).

Anaximander also concluded humans were born from fish as humans are very dependent for a longer period of time after birth and therefore could not have survived on their own initially:

> Further he says in the beginning man was born from creatures of a different kind; because other creatures are soon self-supporting, but man alone needs prolonged nursing. For this reason he would not have survived if this had been his original form (134).

> Anaximander of Miletus conceived that there arose from heated water and earth either fish or creatures very like fish; in these men grew, in the form of embryos retained within until puberty; then at last the fish –like creatures burst and men and women who were already able to nourish themselves stepped forth (135 KRS, Kirk, Raven and Schofield, 2002, p.141).

This theory is consistent with Anaximander's understanding of the origin of the universe. Complex organisms begin as simple cells and new forms are initially enclosed and cocooned tightly and when the time is right, they break free. However, Anaximander differed from his fellow Milesians, Thales and Anaximenes, on the shape of the earth. While Thales and Anaximenes were flat-earth advocates, Anaximander's speculation offered a different concept, a cylinder-shaped earth.

3.4.2 The Cosmos

Thales concluded that as water was the primary source of all existence, the earth was floating on water and in order to float it must be flat. Anaximenes conceived the earth as flat and riding upon air and believed the sun, moon and all the stars were also riding on air because of their flatness (Taylor, 2000, p.49). It was this ability to float or ride which prevented these cosmic bodies from falling. Earth-centred thinking is evident in Anaximenes' ordering of the universe:

> The earth is the starting-point for the creation of the sun, moon, and all the other heavenly bodies. At any rate, he

> says that the sun is earth, but that it has become well and truly heated up as a result of the swiftness of its motion (Ps.-Plutarch, *Micellanies* 3.3-8 Diels, DK 13A5; KRS 148; T34 Waterfield 2000, p.18).

> He says that the stars do not move under the earth, as others have supposed, but round it, just as if a felt cap is being turned round our head; and that the sun is hidden not by passing under the earth, but through being covered by the higher parts of the earth and through its increased distance from us (Hippolytus *Refutation* 1.7.6 [KRS 156]; Taylor, 2003, p.50).

This second quotation is a testimonium and the use of the analogy of the felt cap is interesting given the dispute over whether Anaximenes' one surviving sentence is an analogy or not. Systematic motion of the universe and the acknowledgement of a repetitive order are present in this theory. The universe and the sky are viewed as hemispherical with the cap image. While the word 'felt' or 'felting' reappears in the work of other philosophers including Xenophanes when they reflect on the processes of the cosmic bodies, its first use is attributed to Anaximenes.

Anaximander questioned the felting theory and suggested there was nothing holding up the world. Rather:

> The earth is on high, held up by nothing, but remaining on account of its similar distance from all things (KRS 124; Kirk, Raven and Schofield, 2002, p.104).

Aristotle offers an interpretation of this thinking:

> There are some (including, among the thinkers of long ago, Anaximander) who say that the earth stays where it is because of equality. For something which is established in the centre and has equality in relation to the extremes has no more reason to move up than it does down or to the sides; it is impossible for it to move in opposite directions at the same time, and so it is bound to stay where it is (Aristotle, *On the Heavens* 295b 11-16 Allan DK 12 A 26; KRS 123; T23 Waterfield, 2000, p.16).

Aristotle is very accepting of Anaximander's argument that proved so significant both for the development of science and the development of philosophy. Whereas thinkers up until this time had concerned themselves with the substance on which the earth alone was resting, Anaximander concluded there must be other worlds because of eternal motion. Taylor (2003) explains Anaximander's theory in the following terms:

> Eternal motion in the *aperion* is necessary to generate
> a universe,
> But its activity provides no more reason for a
> universe to be generated here and now than for one
> to be generated there and then,
> So if it generates a universe here and now, it also
> generates a universe there and then,
> Therefore it generates a plurality of universes
> (Taylor, 2003, p.61).

This is conjecture and hypothesis based on Anaximander's claim of infinity. Aristotle too cites the need for an infinite for existence:

> Nor, in order that coming into being may not give out, is it
> necessary for perceptible body to be *actually* infinite. It is
> possible for the destruction of one thing to be the
> generation of another, the sum of things being limited
> (Aristotle *Physics* 208a8ff; KRS 107 Taylor, 2003, p.62).

Anaximander elaborated his conception of this universe in a book of prose on the origins of the world, beginning with the earth and the heavens and ending with the emergence of human and animal life. Taylor suggests it was conceived as a sort of naturalistic version of Hesiod's *Theogony* (Taylor, 2003, p.55). The earth and the universe can be understood by the human mind according to Anaximander and as part of this process, he attempted to draw a map of the world. His theory on the universe gives details of the beginning and the continuous workings of the universe:

> Anaximander says that the earth is cylindrical in shape,
> and three times as wide as it is deep. He says that, at the
> point when this universe was created, the part of the
> eternal which is productive of hot and cold was separated

off, and that a kind of sphere of flame emerged from this
and grew all around the vapour that surrounds the earth,
like bark on a tree. The sun and the moon and the stars
came into being, he says, when this fiery sphere broke
off and became enclosed in certain circles (Ps-Plutarch,
Millcellanies 2.5-11 Diels; DK 12 A 10; KRS 121,122; T22
Waterfield, 2000, p.16).

Anaximander also suggested an explanation for the changes in the
skies based on this theory of origin:

He says that the stars are created as a circle of fire,
which is separated off from the fire in the universe and
surrounded by vapour. There are breathing-holes---pipe-
like channels, as it were--- where the stars appear; and
so eclipses occur when the breathing-holes are blocked
up. The moon appears to wax or wane at different times
as a result of the blocking or opening of the channels.
The circle of the sun is twenty-seven times the size of the
earth, while the circle of the moon is eighteen times the
size of the earth. The sun is the highest, and the circle of
the fixed stars are the lowest (Hippolytus, *Refutation of
All Heries* 1.6.4-7 Marcovich; DK 12A11; KRS 125, 129;
T24 Waterfield, 2,000, p.16).

From Anaximander's description of the universe one can reconstruct his
image of the cosmic bodies, their origin and their functioning. His interest in
measurement is also apparent in this testimonium and is probably influenced
by the Babylonians. However, unlike the latter, Anaximander had nothing to
say about the movement of the planets, a phenomenon that may have
caused difficulties for his paradigm of the universe. Measuring or estimating
the size of the sun and the moon in comparison to the size of the earth could
naturally lead one to wonder about the external view of the earth. In western
society Anaximander holds the distinction of making the first attempt at
drawing a map of the world. Regrettably there is no record of the original but
Hecataeus, a fellow Milesian, improved on it around 500 BCE. The only
details regarding the map are gleamed from Herodotus' expression of
contempt for it when he wrote in the mid-fifth century:

> I laugh when I consider that before now many have drawn maps of the world, but no one has set it out in a reasonable way. They draw Okeanos [the river Ocean] flowing round the earth, which is round as if made by a compass, and they make Asia equal to Europe (Herodotus, *Histories 4.36* not in DK; 5.2, McKirahan, 1994, p.33).

Despite Herodotus' contempt, Anaximander was the philosopher who first offered a complete vision of an ordered cosmos from which others developed variations.

In contrast, Xenophanes did not offer a complete picture of the universe that we know of, though he did have views on its features, particularly on the sun, moon, clouds and rainbows. Xenophanes considered clouds part of the cosmic bodies and suggested they are the origin of the sun and the stars:

> He says that the sun and the stars come from clouds (Ps-Plutarch *Strom.* 4 (DK 21A32) 176; Taylor 2003, p.173).

> Xenophanes says that the sun is made of ignited clouds. Theophrastus in the *Physical Philosophers* wrote that it is made of little pieces of fire collected together from the moist exhalation, and themselves collecting together the sun (Aetius 11, 20, 3; 177; Taylor, 2003, p.173).

Xenophanes presented no explanation as to how this gathering of ignited cloud happened. He concluded that a new sun came into being each day but in a fragment from Aetius, it is claimed that Xenophanes believed a new sun appeared each day, resulting in many suns and moons. Xenophanes develops this argument to explain eclipses:

> The sun comes into being each day from little pieces of fire that are collected, and the earth is infinite and enclosed neither by air nor by the heaven. There are innumerable suns and moons, and all things are made of earth (Hippolytus *Ref.* 1, 14, 3; 175; Taylor, 2003, p.173).

> Xenophanes said there are many suns and moons according to regions, sections and zones of the earth, and that at a certain time the disc is banished into some section of the earth not inhabited by us, and so treading on nothing, as it were, produces the phenomenon of an eclipse. The same man says that the sun goes onwards *ad infinitum,* but it seems to move in a circle because of the distance (Aetius 11, 24, 9; 179; Taylor, 2003, p.173).

Taylor suggests there is some confusion between the testimonia 175 and 179 either by Aetius or his source and it seems probable that the plurality of suns and moons is simply due to their being renewed each day, that Xenophanes explained eclipses as caused by the sun withdrawing to another region of the earth, and that the two ideas became confused. Xenophanes identified clouds as a dominant and central force within the cosmic bodies. As well as being the source for the sun and the moon, he considered them the substance of rainbows. This deduction is of scientific interest and is consistent with Ionian philosophy in viewing rainbows as a physical and natural phenomenon rather than a god:

> What they call Iris [rainbow], this too is cloud, purple and red and yellow to behold (Fr. 32 in *Iliadem* x1, 27; 178; Taylor, 2003, p.173).

The visibility and invisibility of the features of the sky stimulated much of Xenophanes' thinking and in the doxography on him, there is an account of his notion of the stars being quenched each morning only to flicker again at night like coals (Taylor, 2003, p.77). It is from the cosmos and the movement of its bodies that the Ionian philosophers drew most inspiration but they also had ideas about meteorology.

3.4.3 Meteorology

The natural philosophers do not appear to have commented as extensively on the weather as they did on origins and the cosmos. It is altogether possible that they did theorise about the weather and their works did not survive, although some of their fragments and the testimonia of others do

have references to their views on the wind, rain, thunder and lightning, earthquakes, snow and whirlwinds. Thales' interest in measuring and observing the constellations in the skies in order to navigate, combined with his prediction of eclipses, would imply he had views on meteorological phenomena, though regrettably there is no record of his ideas.

Fortunately Anaximander's thoughts on this subject have survived. His arguments on the features of the weather are consistent with his understanding of origin. His theory of separation between hot and cold, which sees fire as being enclosed by air, is re-invoked to explain winds. For Anaximander, winds are the key to a range of meteorological phenomena:

> Anaximander says that all things are caused by wind: when wind has been enclosed within a dense cloud and compressed, and then breaks out as a result of its fineness and lightness, the rupture causes the noise, and the sundering, in contrast with the blackness of the cloud, causes the flash (Aetius, *Opinions* 3.3.1 Diels; DK 12A23; KRS130; T26 Waterfield, 2000, p.17).

> Winds occur when the finest vapours of the mist are separated off, gathered together, and set in motion. Rainfall is the result of the vapour which is sent up from the earth under the influence of the sun. Lightning occurs when wind breaks out and splits the clouds (Hippolytus, *Refutation of All Heresies* 1.6.4-7 Marcovich; DK 12A 11; KRS 129; T24, Waterfield, 2000, p.17).

The escape of wind causes a number of weather phenomena including waterspouts and hurricanes. As Anaximander maintains the world originated from the same process that sustains it, McKirahan argues that he deserves the title of the first Uniformitarian (McKirahan, 1994, p.41). Uniformitarians were eighteenth-and nineteenth-century geologists who held that processes such as erosion and volcanic activity are responsible for the geological features of the earth. There is some cohesion in the surviving statements of the natural philosophers on the weather. Anaximenes agreed with Anaximander on the role of air or wind in the formation of clouds, rain, hail and snow:

> Anaximenes' views coincide with those of Anaximander on these phenomena except that he adds what happens in the case of the sea, which gleams when it is cleaved by oars...Anaximenes says that clouds are caused by the increased thickening of the air, and that when air is concentrated even more rain is squeezed out; that hail happens when the water is frozen as it is falling, and snow when a windy ingredient is included in the moisture (Aetius, *Opinions* 3.3.2, 3.4.1 Diels; DK 13A 17: KRS 158, T40; Waterfield, 2000, p.20).

Anaximenes' thinking may also be the source for elements of Xenophanes' theory on the sequence of dominance of sea and land on earth. Anaximenes spoke of the effects on earth of excessive rain followed by excessive dryness:

> When the earth is soaked or dried out, it breaks up, and is shaken when peaks break off under these circumstances and fall down. And that, he says, is why earthquakes happen both during droughts and also during times of excessive rain. For during droughts, as I have said, the earth gets dry and breaks up, and when it becomes saturated by water it falls to pieces (Aristotle, *On Celestial Phenomena* 365b 6-12 Bekker; DK 13A 21; KRS 159; T41; Waterfield, 2000, p.20).

There is very little on the elements in the fragments from Xenophanes but what is available is consistent with his general theory on the universe. Xenophanes' fundamental principles are:

> All things that come-to be and grow are earth and water (Fr.29, Simplicius in *Phys.*189, 1;181 KRS, 2002, p.176).

> For we all came forth from earth and water (Fr.33, Sextus *adv. Math.*x, 34; 182 KRS, 2002,p.176).

Xenophanes followed through on this understanding to declare the sea is the source of rain and clouds and winds. In other words, the great mass of water on earth is recycled to form these features of the weather:

> Sea is the source of water, and source of wind; for
> neither would there be the force of wind blowing forth
> from inside clouds without the great ocean, nor river-
> streams nor the showery water from the upper air; but
> the great ocean is begetter of clouds and winds and
> rivers (FR. 30, Genav. *In Iliadem* xxi, 196; 183 KRS,
> 2002, p.176).

The comments of the Ionian philosophers on matters meteorological are consistent with their thinking on origin and the cosmos. From observation and evidence they developed arguments that further expanded their conception of an ordered universe. Connections were made with the turmoil of earthquakes, the force of elements and the formation of the geographical features of earth.

3.4.4 Ethics

The natural philosophers are acknowledged and recognised for their rational explanations of the natural world. It is often assumed they had little interest in moral or political matters. As already noted, this is questionable as it is difficult to envisage understanding the universe with all its features and species within an organised system without reflecting on or considering the social organisation of people and the relationships between individuals and groups. In all of the origin stories there is an underlying moral message. McKirahan has shown that moral issues were engaged with by thinkers as far back as Homer and Hesiod whose poetry commented on the best kind of life for a man and for a woman, the relationship between gods and humans, what actions are virtuous and whether and why a person should be virtuous (McKirahan, p.353). However, they confused the physical world with moral matters unlike the natural philosophers who considered the physical world as separate. In turn, Cicero commented on what he viewed as the limitations of the natural philosophers:

> Those philosophers diligently investigated the sizes of
> the stars, their distance and paths, and all heavenly
> matters. Socrates, however, was first to call philosophy

> down from the sky, establish it in cities and even bring it
> into homes. He compelled it to investigate life and
> customs and things that are good and evil
> (Cicero, *Tusculan Disputations* 5.4.10 not in DK; 18.1,
> McKirahan, 1994, p.353).

Philosophy did take a new direction with Socrates but to imply the thinking of the natural philosophers was without some ethical essence is probably too extreme. They did not, as far as can be ascertained from the fragments of their thinking that survive, address many ethical issues directly. But they did, for example, question the power and participation of deities in the origin and organisation of the universe.

On the subject of the general social and political order, there is one testimonium from Thales. Writing at a time of emerging democracy, Thales, as well as being intrigued by the order of the physical universe, was also involved with ideas on the order of society and systems of government:

> He suggested that the Ionians should establish a single
> governmental council, that it should be in Teos (because
> Teos is centrally located in Ionia), and that all the other
> towns should be regarded effectively as outlying demes
> (Herodotus, *Histories* 1.170.3 Hude; DK 11A; KRS 65;
> T2 Waterfield, 2000, p.11).

There is no record of other responses to Thales but the unification of the city-states as envisaged by him never materialised. However, his interest in social and political structures is also reflected in his efforts to understand what it is to be human. Thales addressed the question of defining life and linked this to the idea of 'soul' in the following terms. To have a 'soul' is the indication of conscious life. A man is alive, he can move his limbs and so move other things; if he faints, it means his soul has withdrawn or become incapacitated; if he dies, it has become permanently so, and the 'soul' that goes squeaking down to Hades in Homer is a mere shadow, because it is dissociated from the body and can no longer produce life and movement (Taylor, 2003, p.96). It is as a result of such thinking that people in antiquity came to perceive trees and rivers as being 'alive' with spirits. The relevance of this lies in Thales'

explanation of magnets which, he claimed, had souls as they had the power to move other objects without an external power. This speculation led to Thales' assertion 'that all things are full of Gods':

> Thales too (as far as we can judge from people's memoirs) apparently took the soul to be a principle of movement, if he said that the stone has soul because it moves iron... some say that the universe is shot through with soul, which is perhaps why Thales too thought that all things were full of gods (Aristotle, *On the Soul* 405a 19-21,411a 7-9 Ross; DK 11A22' KRS89, 91; T11 Waterfield, 2000, p.13).

In theorising on features of the universe, the first philosophers searched for an order. It was no haphazard order but one which reflected their conception of an organised order of the universe with all things inter-connected. Their comments on the soul add a spiritual, non-physical element to this symbiosis. Thales' thinking on the universality of the soul is also evident in the work of Anaximenes who believed air to be the primary substance. Anaximenes extended his claim to infer that it is air as soul that holds humans together and gives life and so it also surrounds the world:

> Anaximenes son of Eurystratus, of Miletus, declared that air is the principle of existing things; for from it all things come-to-be and into it they are again dissolved. <u>As our soul, he says being air holds us together and controls us, so does wind [or breath] and air encloses the whole world</u> (DK 13 B2; 160 KRS, Kirk, Raven and Schofield, 2002, p.158).

The sentence underlined in the above quotation is given as a DK B, that is a quotation from Anaximenes. Kirk, Raven and Schofield question the authenticity of this quotation. They point out the sentence in DK is not in Ionic and there are two words in the sentence, one which could not possibly have been used by Anaximenes and another which is unlikely to have been used by him (for further detail on this see Kirk, Raven and Schofield, 2000, p.158). However, they accept the general meaning is accurate but, in keeping with works in philosophy, always open to interpretation. One possibility is to read the quotation/ testimonium as a microcosm/ macrocosm analogy. In such a

framework there is an implied responsibility for humans as they are not isolated individuals but connected through air to other living things and to the universe.

Xenophanes, the first critical theologian, addressed the short-comings of humans in their attempts to know the truth. For Xenophanes there are limitations on human knowledge. There is in his writings an awareness of not knowing, of the ignorance of humans. As such his writing and thinking on awareness portray a reflective mode, an acknowledgment of human limitations:

> No man knows, or ever will know, the clear truth about the gods and about all things I speak of. For even if someone happened to say something exactly so, he himself none the less does not know it, but opinion is what is the outcome [lit.'is constructed'] in all cases (Sextus Empiricus *Adverus Matematicos* VII.49 and 110: fe.34; KRS 186; Taylor, 2003, p.77).

Opinion, not truth, is the outcome of human thinking for Xenophanes. Truth will always elude us because the experiences of the gods are not human experiences and humans have no sure way of establishing the truth in order to gain knowledge. In this fragment as well as epistemology, Xenophanes discusses consciousness or metacognition as a condition of knowledge: 'he himself none the less does not know it'. Xenophanes' awareness of the need for critical reflection also has an optimistic note. The search for truth is presented as a worthwhile human endeavour:

> The gods have not revealed all things to mortals from the beginning; but by seeking they find out better with time (Stobaeus I.8.2: fr.18 [KRS 188]; Taylor 2003, p.78).

This fragment can be interpreted to underline the importance of the search, the process and means by which knowledge is sought. Xenophanes placed a high regard on evidence as demonstrated in his thoughts on origin and, in the search for truth, he emphasised time and reflection as the means to knowledge.

3.5 Summary of Natural Philosophy

Despite the paucity of the remaining fragments of the first philosophers' thoughts, they still continue to intrigue and fascinate, and they attract modern scholars from such disciplines as mathematics, science, literature, history and philosophy. This review has focussed on Thales, Anaximander, Anaximenes and Xenophanes owing to the particular relevance of subject matter of their enquiries, the processes of thinking they employed and their presentation of a critique that offered an alternative to the accepted world-view of their time. The first recorded critical thinkers in western society, they initiated a new way to understand and make sense of the world. It is the hypothesis of this thesis that significant parallels can be established between the children's thinking and that of the early philosophers.

Thales, Anaximander, Anaximenes and Xenophanes attempted through observation, imagination, deduction and speculation to explain the origin and arrangement of the universe. Much of their enquiry was focused on finding an original substance from which everything else evolved. Thales claimed it was water, Anaximander an unlimited, unspecified matter and Anaximenes argued it was air. Xenophanes formulated a detailed theory of the structure of the universe and the alternative dominance of land and water on earth. Their enquiries sought an explanation for the organisation and working of the universe and Anaximander also offered an account of the origin of people. These men relied on reason, evidence and argument for their theories and in the process began both science and philosophy. Indeed it was not until the nineteenth century that these two distinct disciplines emerged. Kirk, Raven and Schofield emphasise the importance of recognising the sheer irrationality of the world-view that the pre-Socratic tradition came to build upon and eventually replace (2002, p.72). The questions these philosophers asked were the subject matter for, Copernicus, Galileo and Newton and indeed all of the scientists and many of the philosophers who followed them. Several of their questions have been answered in subsequent investigations and today, we have a greater

knowledge of the functioning of the universe; however, how it all began is still unknown. We are still, two and half thousand years later, pondering some of the questions posed by Thales and his contemporaries. The third element that of critical spirit is probably the greatest gift the natural philosophers gave to the generations that came after them. The autonomy to think beyond the given, accepted knowledge of a society and develop a questioning spirit as a way of being is by their example something education can be inspired and informed by. If education can offer children the opportunity to acquire the tools of thought and spirit of enquiry exemplified by the natural philosophers, it will surely have fulfilled some of its role in society.

3.6 The Evolution of Philosophy to Academic Philosophy

This review of the Ionian thinkers sets the stage for a brief outline of the emergence of philosophy in Western society. A brief overview of other pre-Socratic thinkers will explain how philosophy travelled west from Ionia to Athens. Archelaus, a pupil of Anaxagoras, and a teacher to Socrates was the first Athenian born philosopher. He marks the end of natural philosophy and through his pupil, Socrates, the beginning of academic philosophy.

Heraclitus came from Ephesus in Asia Minor and lived circa 500BCE. His writings were obscure and he became known as 'the riddler'. He declared fire to be the *arche* of the universe and, in keeping with Milesian thinking, he viewed the universe as having an inherent order or law. He shared some of the ideas of Xenophanes, suggesting a more scientific god in the nature of fire and reflected on the nature of knowledge. Barnes asserts Heraclitus' importance lies in his metaphysical approach to thinking (1987, p.39). He rejected cosmogony, claiming that the world had always existed, and declared everything was in a continuous state of flux, which condition was necessary for existence. Heraclitus believed in the unity of opposites, one of his better know statements being *'the road up and down is one and the same'* (B60, Taylor, 2003, p.102). Knowledge depends on the perspective, time, place and context of the participant. For the traveller at the top of the hill, the

journey is simple but for the traveller at the bottom of the hill, it represents a struggle.

Pythagoras, probably the best known of the early philosophers because of the mathematical theorems bearing his name, was born on the island of Samos *circa* 570BCE. When he was about thirty years of age he emigrated to Croton in southern Italy where he and his followers lived a lifestyle that was in keeping with that of a religious sect. Pythagoras did not write but two areas associated with him and his followers are the transmigration of souls or metempsychosis and the significance of numbers. Pythagorians refrained from eating animal flesh as they believed the animal or bird could hold the soul of a relative or friend. The Milesian cosmologists spoke of the conflict of opposites in the cosmos and the Pythagoreans suggested numbers could offer a solution. They regarded number as spatial with one as the point, two as the line, three as the surface and four as the solid:

> From the unit and the indefinite dyad spring numbers; from numbers points; from points, lines; from lines, plane figures; from plane figures, solid figures, sensible bodies, the elements of which are four: fire, water, earth, and air; these elements interchange and turn into one another completely, and combine to produce a universe animate, intelligent, spherical, with the earth at its center, the earth itself being spherical, and inhabited round about (Alexander Polyhistor, *Pythagorean Notebooks,* quoted in Diogenes Laeritus, *Lives of the Philosophers* 8.25= DK 58B1a, tr. After Hicks; 9.24, McKirahan, 1994, p.101).

In this the Pythagoreans combined the four elements, fire, water, air and earth and it is from their interchange that the universe originates. The Pythagoreans described a harmonious universe and as they could only account for nine bodies moving in the skies, they imagined the counter-earth as the tenth since ten was perceived as the perfect number. Discussion on the possible shape of the earth and its position in the universe appears to

have been more liberal than in some of the centuries that followed. Aristarchs of Samos in the first half of the third century hypothesised:

> The fixed stars and the sun remain unmoved and that the earth revolves about the sun on the circumference of a circle, the sun lying in the middle of the orbit (Acchimedes *The Sand Reckoner 4-5* not in DK, Mc Kirahan, 1994, p.106).

In light of Galileo's fate for refusing to conform to the official view of the order of the universe in the seventeenth century CE, such diverse thinking and the freedom to participate in it are noteworthy. However, some of the early philosophers also suffered because of their views as evidenced by Anaxagoras' exile (p.90).

Parmenides, a native of the city of Elea, in southern Italy, was born *circa* 515 and lived to *circa* 450BCE. He, along with Zeno, also from Elea, gave rise to the term Eleatic philosophy that doubted the reliability of the senses and demanded conditions for existence. Parmenides introduced deductive argument to philosophy and while Heraclitus had a metaphysical approach to thinking, Parmenides is seen as the inventor of metaphysics. He was the first to undertake a rigorous examination of the concepts of being and coming to be, change, motion, time and space. He wrote in poetic form but while a substantial proportion of the text of the *Way of Truth* survives, there is little remaining of the *Way of Appearance.*

> For never shall this be overcome, so that things-that-are-not-are;
> You should restrain your thinking from this way of seeking.
> And do not let habit compel you, along with well-tried path,
> To wield the aimless eye and noise-filled ear and tongue,
> But use reason to come to a decision on the contentious test I have announced (pieced together from: Plato, *Sophist* 237a 8-9 Duke et al; and Sextus Empiricus, *Against the Professors* 7.114.37-41 Bury; Dk 28B7; KRS 294; C7; F7 in Waterfield, 2000, p.59).

Taylor compares Parmenides' approach to thinking to that of Descartes; 'Both start with a philosophical enquirer, an apparently isolated mind, trying to establish what it can know with absolute certainty' (Taylor, 2003, p.134).

Empedocles (495-435 BCE), from Acragas, a Greek city in Sicily, also wrote in poetic form and he advocated detailed discussion. Empedocles disagreed with the Eleatics as he considered the senses a route to knowledge and, if properly used and combined with reason, he believed they could lead to truth and knowledge about the world. He claimed the earth was spherical and named the four elements or roots - fire, water, earth and air - as the basic components of existence. He perceived the world moving through cycles between Love and Hate. Philosophy returned to Ionia with Anaxagoras who was born *circa* 500 in Clazomenae but later moved to Athens. Anaxagoras wrote of seeds containing all the potential for existence and considered an evolutionary approach:

> In the same seed there are hairs, nails, veins, arteries, sinews and bones. They are unapparent because of the smallness of their portions, but as they grow they gradually separate apart... He made these claims not only for bodies but also for colours. For black is in white and white is in black. He posited the same for weights, supposing that light is mixed with heavy and vice versa (Scholium on Gregory Nazianzus, *Patrologia Graeca* vol. 36, col. 911=DK 59B10; 13.26 in Mc Kirahan, 1994, p.206).

The search for a symbiotic order to understanding the universe found in the Milesian thinkers is also present in Anaxagoras but he radically developed the natural evolutionary arguments of the Milesian philosophers and by so doing was enabled to meet the challenge of Eleatic logic (Taylor, 2003, p.208). He posited a theory of continual change while the Eleatics argued that for things to exist, they must be changeless and indestructible. One of Anaxagoras' greatest contributions to philosophy was his theory of mind; that which is not matter must be *nous,* mind. This reflects some of the thinking of Xenophanes but Anaxagoras develops the concept of mind further:

> All other things have a portion of everything, but Mind is infinite and self-ruled, and is mixed with nothing but is all alone by itself. For if it was not by itself, but was mixed with anything else, it would have a share of all things if it were mixed with any; for in everything there is a portion of everything, as I said earlier; and the things that were mingled with it would hinder it so that it could control nothing in the same way as it does now being alone by itself. For it is the finest of all things and the purest, it had all knowledge about everything and the greatest power; and Mind controls all things, both the greater and the smaller, that have life. Mind controlled also the whole rotation, so that it began to rotate in the beginning (Fr.12, Simplicius *in Phys.* 164,24 and 156, 13; 476 in Kirk, Raven and Schofield, 2002, p.363).

In some ways Anaxagoras completes the circle for, as Taylor asserts, he represents the vitality of the Ionian tradition, specifically its adaptability to the rigour of Eleatic thought and to the critical spirit of the later fifth century (Taylor, 2003, p.219). The story of Anaxagoras' death is significant to this thesis reflecting on children's thinking. Anaxagoras was indicted in Athens for claiming the sun was not a divinity but a white, hot stone. He and his children were condemned to death and although his children were killed, he was eventually freed and exiled to the town of Lampsacus near Troy in Ionia. When the magistrates of that town asked him what he would like done for him, he replied 'let the children have a holiday each year in the month of my death' (Diogenes Laertius, *Lives of the Philosophers* 11 6-14, Barnes, 1987, p.239). It seems fitting for this thesis that the last of the Ionian natural philosophers would be celebrated by a holiday for children. After Anaxagoras, his Athenian-born pupil, Archelaus, also called a natural philosopher, was to converse with the one of the greatest thinkers of all time, Socrates.

With Socrates came a whole new approach to philosophical thinking. It was made possible by Thales and his Ionian contemporaries, who caused a revolution in human's understanding of their world. These natural philosophers established that the human mind is a tool for understanding the world. They were reductionists, that is, they formed general hypotheses in an attempt to explain as many things as possible by means of as few hypotheses as possible. They viewed existence holistically. Although their rational thought

relied on natural phenomena, their thinking was influenced in some way by what preceded them, the mythic interpretation of the universe. This turning point, this moment of change in human thinking and the conditions and background from which it evolved, have been the focus of this chapter and can be summarised as follows; the city-states offered the opportunity and the forum for citizens to discuss ideas and concepts with an openness to finding truth through reasoned argument and the selected philosophers concentrated on explaining natural phenomena by developing rational theories. This is the context for the critical appraisal of the modern educational practice of encouraging philosophical dialogue with young children, Thinking Time, in chapter five.

3.7 Conclusion

The social constructivist theories of education reviewed in chapter one emphasise the importance of an enquiry approach to teaching and learning and they are rooted in a democratic and dialogical understanding of teaching and learning. The work of Lev Vygotsky is highlighted because of his theories on the human, social mind as a tool for thought, for reasoning. The desire to understand the mysteries of the universe through narrative myths has been illustrated in chapter two. Chapters one and two both related in different ways to thinking and understanding. Chapter one concentrated on the development of thinking in children, while chapter two has shown how myths have been a common human structure to understand. Chapter three encompasses the content of chapter two and the enquiry approach of chapter one. Thales, Anaximander, Anaximenes and Xenophanes reflected on the mysteries of the universe but rather than rely on an outside power to give understanding, they sought explanations through human reason. It is suggested this pre-Socratic philosophy has significant parallels with the dialogues of the children focusing on the mysteries of the universe. Chapter four sets out the method of research for such an enquiry.

Chapter 4:
Methodology

4.1 Introduction

The overall aim of this thesis, as outlined in the Introduction, is to explore and test the hypothesis that children's thinking, as displayed in Thinking Time, has significant parallels with the thinking of a selected group of Ionian philosophers who played a decisive role in inaugurating western philosophy. It has been the task of the previous chapter (chapter three) to offer a carefully focused exposition and interpretation of the thought of these philosophers, based on authoritative recent translations of the surviving fragments and references by ancient authors to their work, and of the preceding chapter (chapter two) to fill out the mythic context out of which this thought emerged. It remains now to provide a comparable account of the children's thinking in the context of Thinking Time. Clearly this is a very different kind of task. The evidential basis for it does not lie in canonical texts around which there is an already reasonably well-established scholarly consensus. Rather, this basis has to be constructed through a process carried out in accordance with quite different, though in their own way no less scholarly, norms. And when it is constructed, there remains the task of analysis and interpretation, which has itself to be conducted according to appropriate and rigorous procedures. That analysis and interpretation will be presented in the following two chapters (5 and 6), the first offering a preliminary schematic analysis in quantitative terms and the second providing a more extended, nuanced and interpretative account. In the course of this account in chapter five comparative references will be made to points already established in chapter three about the selected Ionian thinkers, and thus to address the wider hypothesis that the thesis has in its sights. But it is only when the whole analysis and interpretation of the children's thinking is in place – and thus only in chapter seven – that it will be possible, with all the accumulated evidence assembled, to make a comprehensive judgment on this hypothesis.

This present chapter is a transitional one between the two immediately preceding chapters and the two immediately succeeding ones. With respect to the latter, its task is to outline the 'how' and 'why' of gathering data relevant to the overall aim of the thesis and then analysing and interpreting it. It is, in

other words, a 'methodological' interlude, whose intention is to specify the design of this second overall part of the study. In it I will provide information about, and justification for, the procedures adopted in the fieldwork - in terms of the sample used, the conditions under which Thinking Time sessions were conducted, and the ways in which data were recorded and transcribed. I will also outline the rationale for the quantitative analysis, explaining how the data were coded and how the coding categories were generated and justified. And I will outline, too, the approach adopted in the more qualitative, interpretative reading of the data provided in chapter six. This is a narrative approach and I shall explain its nature and its particular appropriateness for this study. Finally, I will provide sample material to illustrate the kind of approaches to quantitative analysis and qualitative interpretation used in the following two chapters.

4.2 Fieldwork

The purpose of the fieldwork is to access the continuous classroom practice of Thinking Time with children in the early years of primary school. It was important that the dialogues were part of the normal classroom practice for children and teacher and that they were captured as much as possible in their fullness and integrity. While I might have conducted the fieldwork myself, I decided not to do so in the interest of keeping the discussions authentic, as much as possible within the normal classroom routine of the children. The focus on naturalistic settings (Glaser and Strauss, 1967), capturing the uniqueness of individual classes (Stenhouse, 1975) and obviating the need for a researcher whose presence could contaminate the naturalness of the speech (Wells in Adelman, 1981) were all considerations in deciding not to be present. Accordingly, one of the first tasks was to identify teachers who would be competent and willing to conduct Thinking Time sessions on the selected topics with the related classes (junior infants, senior infants and first class) and to record these sessions reliably and accurately.

Through the aegis of the ATPC, (The Association of Teachers of Philosophy with Children), three teachers with the necessary experience and the relevant classes volunteered to undertake the classroom-based work. The

Irish primary school system has an eight-year cycle catering for children from four-to-twelve years of age. Junior infants, senior infants and first class are the first three years of this system. Teacher A and Teacher B both teach in a Dublin Junior School. It is a large, urban school catering for both boys and girls in a middle-class area and has a staff of twenty teachers. Teacher A developed Thinking Time with her classes over a six-year period. She has almost twenty years of teaching experience in a number of schools and had worked for many years in areas officially designated educationally disadvantaged. She has completed an in-service course on philosophy with children. She has also facilitated visits from student teachers interested in philosophy with children. Teacher B has been involved with Thinking Time for ten years and has attended a number of courses on philosophy with children. She had been teaching for ten years at the time of the research and was in the process of completing a masters degree in education. She has since begun working in teacher education with particular responsibility for science education and has embarked on a doctorate in this area. During the spring term of 2000, Teacher A had a class of junior infants, aged four-to-five years and Teacher B taught a class of senior infants, aged five-to-six years.

Teacher C, an executive member of the ATPC, is from Cork city. At the time of the research, she was teaching first class, six-to-seven year-old children, in a school in an area of Cork city designated as educationally disadvantaged, with eight class teachers including a teaching principal. Teacher C has over twenty years classroom experience, has a masters' degree in education and is currently studying for a doctorate researching aspects of the Thinking Time approach.

Seventy-eight children in all were involved in the research. Permission to carry out the fieldwork was requested from and granted by the Boards of Managements of each of the schools and care was exercised to ensure that in this and in subsequent phases of the study the ethical guidelines set out by the schools and the university were strictly adhered to. During the spring term of the year 2000, three teachers conducted eight Thinking Time sessions on a weekly basis on the same topics, as requested by the researcher and as

strategically related to the main aim of the study. All of the sessions were audio taped. After each session the children were invited to draw a picture, related to the preceding topic, with no instructions as to what content or form this might take, and an archive of all the drawings was kept by each teacher for later collection.

4.2.1 Data Recording and Transcription

To record oral discourse, audio recording was selected as the most comprehensive method. This data collection strategy is noted for the volume of data it generates and the time it takes to transcribe; however, its suitability for this project far outweighed these problems. A few clear advantages of audio recording for this, as for other comparable studies, may be noted. First, is the matter of adequacy and exhaustiveness. Since each session was recorded in its entirety with no editing, exclusions or excisions, the body of verbal data gathered was as full as possible (given occasional minor inaudibility due to the low volume of a particular utterance – which in all cases are noted in the transcripts). Second an audiotape is relatively permanent and remains as incontrovertible primary evidence that can be referred back to if and when the need arises (it overcomes the temporary nature of the spoken word by capturing it in a form that is reproducible). And third, tape-recording can be re-played, allowing a particular segment to be re-visited for finer attention (Walker, 1985; Stubbs, Willes and Wells in Adelman, 1981). I also availed of a fourth advantage of audio-taping: the fact that it allows translation from oral to written form – or facilitates the making of a comprehensive and accurate transcript of the original oral proceedings. Children's utterances were transcribed as exactly as possible, without amendments, inclusions or omissions. Their use of tenses in verbs and plurals of nouns etc. was transcribed as spoken. The following notation marks are used in the transcripts:

- Each speaker is indicated by ●
- A brief pause in a contribution is marked by (●)
- Emphasis in a contribution is underlined, e.g. really good
- A continuous pause or the petering out of a comment is indicated by …

- Where the transcription is uncertain or unclear, this is marked by ( )
- When contributions overlap, this is indicated by { }

This completes the descriptive account of the initial phase of the study in terms of the fieldwork, data gathering, recording and transcribing. Before proceeding to give (in the nature of the case, a more explanatory) account of the second phase of the study, in terms of the kind of analysis and interpretation that was to be undertaken, a few points from the descriptive account just given need some clarification or justification (if only, in some cases, to indicate significances that are not being attributed to them). These concern, first, the rationale for selecting i) three class levels, from junior infants to first class, ii) the three particular teachers and schools that provided samples of these classes, and iii) the actual topics that provided the stimulus and intended subject matter for the eight Thinking Time sessions with each class. And, second, the decision to invite the children at the end of each session to produce a drawing on the topics needs to be explained. These points are addressed in the next section.

4.2.2 Rationale for Aspects of the Fieldwork

The three class levels were chosen quite simply because they contained children at the age-level (four-to-seven) and the level of educational experience targeted in the overall aim of the study. This is the level at which children are considered to be still in the 'early years' while, in the Irish case, also being already involved in the first stages of formal schooling. As well as being the level in which my own experience and expertise is concentrated, it has also recently become the object of a quite new interest and emphasis in educational policy deliberations in Ireland. The publication of the OECD report *Thematic Review of Early Childhood Education and Care Policy in Ireland* (2004) and *Towards a Framework for Early Learning* (2005) by the NCCA (The National Council for Curriculum and Assessment) are indications of this. While these documents give a topical edge to the present study, they do not determine its substance. The selection of three consecutive levels in the

general age-range from four to seven generated data that gave a basis for some comparative analysis of a 'developmental' nature: it made it possible to track progression along certain lines – for example, in the level of engagement with a particular topic, or in the incidence of specific kinds of speech acts, or in the degree of interactivity – as the children, with age, advanced in educational experience. Such comparisons will emerge both in the quantitative and in the qualitative analyses to be presented in the two following chapters and they are seen as enriching the study. However, that this is not primarily a developmental study – in the sense that this dimension is not included in the core hypothesis that the study sets out to explore.

Prior to asking why the three particular classes were chosen as samples of each of these class-levels, one must ask why three classes were chosen, i.e. one for each class level? This decision was made for reasons both of feasibility and of appropriateness to the kind of study envisaged. Within the resources available for carrying out the study, any significantly larger data set to be processed would have imposed an unsustainable burden. But, more intrinsically, the research was envisaged as a kind of case-study rather than as a large or comprehensive survey. Its aim was not to elicit information about the whole or even a large range of what goes on under the name of 'Thinking Time' in Irish schools but rather to conduct an intensive, in-depth analysis that would carefully reconstruct the meanings, styles of thinking, and patterns of interaction among the children in a class group. Stenhouse (1975) asserts that it is through explanation of the uniqueness of individual classes that educational improvement can take place. For this purpose one class from each level was deemed sufficient – a judgement that in no way discounts the potential value of, or need for, other studies with a wider sample aimed at corroboration or further probing of aspects of the findings of this study. This is a matter that will be returned to in the concluding chapter.

As to why the three particular classes were chosen, a few points can be made. As indicated in the previous paragraph, the aim of the study did not encompass a comprehensive and reliable audit of what may or may not transpire across the range of classes in which 'Thinking Time' is practised –

with a view, for example, to subsequent standardisation of the process. Rather, for purposes of comparison with the selected pre-Socratic thinkers, it is concerned with what children, in a reasonably well-conducted Thinking Time session, can and do accomplish with respect to selected aspects of thinking and speech. For this reason, the more sophisticated aspects of sampling technique were not in play here. What was important was that the teachers selected were competent practitioners of Thinking Time; and, as indicated in the previous section, care was taken to ensure that this was the case. That apart, I did have a concern to ensure that the classes (and the schools) selected were not in any obvious way exceptional – for example, by catering for children deemed to be especially gifted, or by being in an especially affluent area which would ensure that they were particularly well resourced. As already indicated, of the two schools involved in the study, one is in a (more of less) middle-class area and the other is in an area whose socio-economic profile leads it to be designated as educationally disadvantaged. That said, it may be important to note here that socio-economic variables are not intended to be within the remit of this study. And the same can be said about gender. Some of the data gathered would indeed provide a basis for some comparative analysis of the boys and girls. But, again, this is not part of the aim of the present study.

4.2.3 The Topics

The selection of the topics for discussion in the eight Thinking Time sessions conducted with each class is more integral to the aim of the study: it was largely determined by the substance of the hypothesis that I set out to explore. For, as explained in the Introduction and explored in more detail in chapter three above, it is seen as a specifically characterising feature of the selected Ionian thinkers – by contrast with the kind of philosophy whose inauguration about two centuries later is usually attributed to Socrates – that their main preoccupations were very largely, if not exclusively, with natural and cosmological phenomena, for example, the earth, stars and planets, sun and moon, life and death, germination and decay, day and night, the orderly rhythm of the seasons, and the patterns of weather that could impact so heavily on the livelihood and way of life of their communities. This being the

case, in the field-work for the study it was topics such as these that needed in some way to be presented for discussion by the children. In terms of content, then, I determined on four themes that had very recognisable profiles in the thought of the proto-philosophers: origins, meteorology, cosmology, and ethics (in a wide and inclusive sense of this term, explained in the Introduction). And I divided each of these into two sub-themes or topics, giving in all eight topics: 'Adam and Eve', 'The First People' (Origin); 'The Weather', 'The Seasons' (Meteorology); 'The Earth', 'The Cosmos' (Cosmology); and 'Truth', 'Good and Evil' (Ethics). These topics seemed broadly representative of the key content of pre-Socratic thought and seemed to provide a fair sample of what might profitably be discussed with the children. (I am aware of the incongruity of 'Adam and Eve' in the list. It was chosen in deference to the fact that, whereas other myths of human origins were current in ancient Greece, it is the dominant and most pervasive such myth current in the culture of Irish primary schools. It was not its specific content so much as what the children did with this content that was of interest.)

Having indicated the determination of the topics by the characteristic concerns of the targeted philosophers, I should say that this was not the sole consideration here. For, as indicated in the Introduction, it has been part of my own cumulative experience of Thinking Time, and that of other practitioners of it in junior schools, that children in this age range have consistently shown a leaning towards topics of this kind. Repeatedly - and notwithstanding the children's absorption by high-tech games and other aspects of an increasingly post-modern culture – I have observed that, when given a choice of topics for sessions, their preferences have tended towards what might broadly be called 'natural' phenomena. It was this repeated observation, as well as my initial exposure to early Ionian thought, that first led me to the kind of surmise that is being more systematically explored and tested in this thesis.

There is a methodological issue here that deserves some comment. Perhaps it will be objected that, by choosing subject-matter for the children's discussions that was already known to be central in the thought of the selected ancient philosophers (and indeed by choosing it for this very reason)

I was biasing the data towards a positive outcome in relation to the hypothesis that the study purports to test. In response to this objection, it is important to note that, as just indicated, it was also already known that children too were favourably disposed to these topics – so that at least the charge cannot be made that this study tries illegitimately to establish, as if it were a new finding, that children, just like the early philosophers, are keenly interested in natural phenomena. No, this was already largely assumed by the study - though it should also be noted that it is an assumption that could in principle have been undermined, or at least called into question, by data produced by the study; for it might have happened (and in other cases often has happened) that the selected topic would fail to engage an otherwise responsive class and that the discussion would accordingly go flat or continue to spin off in other directions closer to the children's real interests. And the fact that this, as the data show, did not happen has, therefore, at least some significance. But this is certainly not the only or main significance of what the study aims to accomplish. Rather, given that the data do not upset the assumption that natural phenomena are indeed of considerable interest to the selected children, the study also aims to explore what the children make of these topics, how they construct meaning in relation to them, and the kinds of concepts and arguments that they deploy in discussing them. And it is in analysing and interpreting the data in *these* regards that the study aims to gather evidence relevant to an investigation of its central hypothesis. It is this evidence that makes this hypothesis both substantial and at the same time falsifiable (this falsifiability constituting its claim to 'scientific' status (Popper, 1984).

Finally, in this section, a word of explanation of the place of, and reason for including, children's art-work in the field-work for the study. This is something of an 'optional extra', a small but interesting annexe, to the main building. In other words, without it the integrity of the study's main aim would still have been intact. For it is as mediated in verbal language that the thought of both early philosophers and of children is being investigated (with respect to the former, given the surviving evidence, it is the only available medium). A different, much more ambitious, kind of study might have been undertaken in which this art-work would have been fully integrated into the main design. But

such is not the case here; in this study, it has a subsidiary role. This is not to say that this role is trivial. As part of the data, the children's art-work has a rich suggestiveness that cannot be regarded as entirely extrinsic to the spirit, if not the main aim, of the study. This suggestiveness may be related to a growing acknowledgement, not least in the theory and practice of early childhood education, that words are not our sole language. Much research, for example in cultural history, psychology, and philosophy has drawn attention to the rootedness of all language in the human body and the status of art as a language, a properly symbolic process and product, no less than writing or speech. This theme has also been taken up in early childhood studies.

While Lowenfeld (1982) interprets scribbles as having symbolic meaning only for children of three and upwards, Golomb (1992), Freeman (1980) and Matthews (1994) have asserted that as soon as children begin to make marks they are aware of the potential for representation. According to Matthews,

> it is more useful to consider the possibility that the mark making of babyhood is not random, haphazard 'scribbling' but is loaded with representational and expressive meaning, purposes and understandings right from the start' (Matthews, 1994, p. 16)

And Gardner and Wolf (1983) concur, claiming that the two-year-old child's adoption of symbols is the major developmental event in the early years of childhood.

It was in accord with this general perspective – and more particularly in the light of the emphasis by educators at Reggio Emilia on art as a central focus and a unifying and integrating force in an evolving curriculum – that art-work was introduced as an element in this study. The assumption was that art-work can be regarded as a second language, serving to support or call into question understandings formulated through the spoken word. Just as verbal language uses symbols to convey meaning, the images children create on paper can be a different expression of their conceptual understanding of the topics discussed. And activities such as drawing can harness and structure their natural curiosity, encouraging them to investigate and explore possibilities. Completed at the end of Thinking Time, the drawings offered an

opportunity for children to consolidate, revise or transform their thoughts, concepts and imaginings. In the words of Houk,

> Children's representations are used as memories of their experiences and as visual aids that help them revisit their initial observations and proposals in order to reflect further and revise their perceptions and theories (Houk, 1997, p.30).

And just as the oral dialogues are essentially open-ended, the drawings too are open in terms of content. As Carla Rinaldi (1993), an educationalist from Reggio Emilia points out, the potential of children is stunted when the end point of learning is formulated in advance (p.118). A random selection of the children's pictures for each class on each topic will be included in chapter six. And in the later section in this chapter, I shall supplement my discussion of the main methodological issues relevant to the task of analysing and interpreting the transcripts of the children's discussions, with some brief remarks about the comparable task of interpreting their art-work. I conclude by saying that the interpretations I offer of this work in chapter six are in all cases intended only as a supplement to the analysis and interpretation of the transcripts, which remain the primary focus of the study.

4.3 Analysis and Interpretation: Quantitative and Qualitative Approaches

Having described and explained the relevant aspects of the field-work for this study, it remains to discuss the ways in which the data gathered through this field-work are analysed and interpreted. This brings me to the core of the methodological issues involved in the study or at least in the part of it concerned with understanding the children's speech and thought-patterns in the recorded Thinking Time sessions. The task here is to indicate what kind of strategies are to be used for advancing this understanding (the 'how') and to demonstrate their particular effectiveness or appropriateness in relation to the specific aims being pursued and questions being addressed in the study (the 'why').

Given the focus of the study on the meaning-making capacities of children in a class-group, and the social constructivist way in which this has been

understood in the development of Thinking Time, interpretative or ethnographic approaches - broadly attuned to the theoretical perspective of social constructivism - recommend themselves. 'Ethnography' means (in the Greek from which it derives) 'writing about people'. Characterised by openness and inclusiveness, its object of attention is peoples' lived experience. It assumes that what people (as distinct from things) are doing is already meaningful and that its task is to capture this meaning as fully as possible in its richness and complexity. The 'writing' it undertakes is geared to description and interpretation rather than measurement and prediction. Ethnographic approaches have a rich history in early childhood research, well illustrated in the British tradition by the work of Susan Isaacs (1932) and Ann Stallibrass (1974) and continued by the American, Vivian Gussin Paley (1981). The affinity between Paley's type of research and what is undertaken in the present study may be inferred from this comment by Kathy Sylva:

> Important learning in preschool includes learning the conventions of discourse such as arguing. We must include these important areas of development in curriculum objectives related to academic skills. Those who develop curriculum will learn much from this line of research (in Abbott and Moylett, 1999, p.177).

There are approaches to research that would be less well attuned to the kind of understanding that this study seeks to establish and that might even impede it - a fact well suggested by Gareth Matthews (one of the educationalists whose work has influenced and supported the development of Thinking Time) in this adverse comment on an approach which, in his view, systematically screens out important realities:

> If there is no place in the developmentalists' story for the ability to enter into philosophical dialogue - perhaps because that ability doesn't lend itself to the developmentalists research strategy - then many teachers and sophisticated parents will not think to engage their children in open philosophical discussion (Matthews, 1984, p.119).

Given the nature of its focus on children's discursive practices in Thinking Time, this study is not involved in analysing data from a large statistical sample or testing the children involved against national or international standardised tests. It is concerned, rather (in a way closely related to what Lawrence Stenhouse (1974) writes about), to do justice to the unique texture of what transpires in particular classroom episodes, while at the same time finding ways to name this significantly, to bring it into an intelligible pattern with some more general reference – if only by being comprehensible to an appropriately perceptive reader. And as this study investigates an innovative pedagogical practice, a point made by Hamilton and Parlett is also relevant here. They point out that when such a practice becomes part of the teaching and learning within a school, it develops a different and individual form (in Murray and Torrance, 1987, p.71). They illustrate this with the analogy of the theatre: to know whether a play works, one has to look not only at the manuscript but also at the performance, that is, at the interpretation of the play by the director and actors:

> If this is acknowledged, it becomes imperative to study
> an innovation through the medium of its performance
> and to adopt a research style and methodology that is
> appropriate (1987, p.72).

Research of the kind just indicated might broadly be described as 'qualitative'. Qualitative research was influentially defined by Glaser and Strauss (1967) who identified the following main features: a focus on natural settings; an interest in meanings, perspectives and understandings; an emphasis on process; and use of inductive analysis and generation of grounded theory. Lincoln and Guba (1985) developed this definition by suggesting that variables and categories could evolve from the data rather than being pre-selected. In characterising the approaches used in this study, these features provide a useful reference point - negatively as well as positively. First, as I mentioned earlier in this chapter, an attempt was made to gather the data in a setting that was as much as possible a part of the children's normal classroom routine. For that reason, and by contrast with data gathered in more staged, artificial or laboratory conditions created specially for purposes of the research, it might be said that the data here were gathered in a 'naturalistic

setting'. Some qualification is need here, however. For Thinking Time is not a 'naturally occurring' phenomenon; it is a consciously constructed social/pedagogic space, and (particularly important given their centrality in this study) the children know this. They construct their talk, however loosely, as Thinking Time participants (they might engage in very different spontaneous philosophical comments during play at the sand tray for instance). Second, the focus of this study is indeed on 'meanings, perspectives and understandings' as generated by the children in and through their talk. It should be noted that primarily the attention here is on the class as a community engaged in the activity of collective meaning-making rather than on individual children as such. Third, there is, too, a strong emphasis on 'process'; it is recognised that individual utterances cannot be adequately understood apart from earlier utterances to which, partially at least, they are responses, or from later ones that they in turn at least partially influence. And so the 'reading' of the data, in some of its aspects as least, has to comprehend the whole dynamic process within which individual utterances occur and find the context for their meaning.

The fourth feature mentioned above from Glaser and Strauss, i.e. 'use of inductive analysis and generation of grounded theory', calls here for more complex discussion. For as noted earlier, in this study two quite different approaches are used to comprehend the data. And one of these approaches cannot properly be described as 'inductive' nor can the 'theory' generated by it be described as 'grounded'. This approach, adopted for the preliminary analysis presented in the next chapter, uses pre-constructed categories that did not emerge in the course of reading the data for this study (though of course the actual coding of utterances under these categories did, unavoidably, depend on a close reading of the data). In the next section of this chapter I will discuss the generation and use of these categories in more detail. But first it is worth pointing out that a corollary of their use in this study is that grounded theory, valuable as it is for interpretative tasks, is not accepted as having exclusive validity in the kind of inquiry pursued here. And some recent discussion of grounded theory is relevant here. Bryman (2001, p. 395) has noted that Glaser and Strauss themselves allow theory construction

that draws on existing knowledge, when the latter is accepted as valid. He argues that with the growing sophistication of work in this field, there has been an accumulation of pertinent knowledge that can legitimately be incorporated in the analytic process. However, grounded theory is still criticised for not sufficiently recognising the role of the researcher in the research process; some critics have argued that it is not possible to enter a research field entirely theory-free or even category-free (Charmaz, 2000, cited in Bryman, ibid, p. 397; Clarke, 2004; Corbin and Holt, 2005). The use of pre-constructed categories in the analysis presented in the next chapter is an endorsement of these arguments about the validity of existing knowledge and the role of the researcher.

4.3.1 Generating Analytical Categories:

This study focuses on children's processes of constructing meaning and developing perspectives and understandings, as these are revealed through their talk in Thinking Time. A helpful pointer for any such study is provided by Clem Adelman (1981) who points out that one of the difficulties with using talk as a source for research is its very ordinariness, especially when it is conducted in a register with which the researcher has an intimate familiarity. To penetrate beyond this 'ordinariness' of the talk, to identify the perspectives and processes that are implicit in the contributions of the participants, singly and together, requires an ability on the researcher's part, to defamiliarise herself, so that she is not carried away by the 'tacit' nature of much of the children's, and of her own, knowledge. Her task is to render explicit what is implicit and tacit. This calls for rigorously critical listening, informed by a capacity to 'decentre', an alertness to the fact so much is as yet relatively tacit, implicit. (1981, pp.3-4).

In this task of rendering explicit, the schema of pre-constructed categories used for the analysis in chapter five plays a valuable role. These categories were generated (by me and colleagues; see below) during a long iterative process of classroom practice and theoretical exploration in the course of the development of Thinking Time. They emerged both from

participation in and reflection on Thinking Time sessions and from a reading of related literature especially by authors developing wider 'Philosophy for Children' programmes. The generation of such schemas is addressed, for example, in Lipman (1974) and Splitter and Sharp (1995). Absolute claims cannot be made for the schema used here or indeed for any comparable schema. It is always possible that other categories could have been included as well as, or instead of, existing categories; and these might have been subdivided to give finer discriminations. The alternative to absoluteness, however, is not arbitrariness. There are sensible criteria to be borne in mind and indeed sensible processes to be gone through in generating categories.

Three criteria may be mentioned here, two formal, and one substantive. The formal criteria are, first, that the schema should aim for comprehensiveness – in other words, all utterances should be unambiguously or at least plausibly assignable to at least one of the categories; and, second, the categories should aim to be mutually exclusive - so that overlaps, where an utterance can plausibly be assigned to more than one category, are minimised if not altogether avoided. The more substantive criterion – which is distinct but not separable from the two 'formal' ones just mentioned – is that single categories and, more significantly, the whole schema or set should have a high degree of 'fit' with the particular content and cognitive range of the utterances to be categorised as well as with the overall aim of the inquiry which the categorisation is to serve. With respect to the aim of the present study, it was important that the categorial schema should comprehend elements of thinking that are broadly characteristic of 'logos' - of the kind of attempts to introduce order or reasonableness into thinking that are discernible in the Ionian philosophers and that may, or may not, be strongly instantiated in the data on the children's thinking generated by the transcripts of Thinking Time sessions. The ten constructed categories may or may not coincide with possible meanings of them in another context. However in the context of this thesis, I aim to state clearly how they are understood and to apply them consistently in analysing the scripts.

With regard to process, the categories used in the present study were generated, as mentioned above, through reflection on an accumulating experience of Thinking Time on the part of colleagues and myself, and through consultation of relevant literature. They were also tested as part of a two-year (1994-1996) research project which I undertook, with funding from the then Department of Education (Dublin). Fifty-one Thinking Time scripts were involved. Initially ten randomly selected scripts were analysed using the categories and three teachers who are not part of the present study but who were familiar with Thinking Time assessed the analysis and, through revision and re-adjustments of what qualified as belonging to a particular category, a schema was devised and refined. A paper based on the results of that two-year study was published in *Irish Educational Studies* (2001, Vol. 20, pp.278-95).

4.3.2 The Categorical Schema of this Study

This schema comprises the following ten categories:
- Reflection
- Comparison
- Statement
- Reason
- Summary
- Judgement
- Question
- Analogy
- Inference
- Hypothesis (Donnelly, 2001)

When children engage in forms of thinking assignable to one or other of these categories they do complex work:

- Reflection involves a child addressing an utterance(s) of another child(ren) and thereby showing a dialogical capacity. Reflection is an

important element of metacognition and it is also necessary to access many other abstract thinking abilities. When a child speaks directly to another or uses words such as 'I disagree with you John because...' or when a child begins an utterance with 'Maybe...' as part of a musing it is classified as reflection.

- In comparing, two ideas are considered together and this demands an awareness of similarities and differences.

- Making a statement is a basic component of talk used to describe a thing or event or to express an opinion or thought; statements comprise essential elements in conversation and dialogue.

- Reasoning attempts to justify a statement by giving evidence or making logical connections and offering explanations.

- In offering a summary, ideas, thoughts and concepts are collated and placed in a structure to assist understanding and provide an overview.

- Judgement demands the weighing up of different arguments to arrive at a reasoned conclusion. However, an opinion supported by a reason is also classified as a judgement as in a valued judgement, for example 'it's not fair because....'.

- Questioning comes from wondering and is central to dialogue. Through questioning, one expresses curiosity, seeks further information or explanation, or demand evidence and argument.

- Analogy offers a structure in which to illustrate an argument, or constructs a framework by showing a similarity within which to understand concepts and ideas. Children can use an example in a similar way to an analogy.

- Inferential thinking involves implication and possibilities based on a statement or claim.

- Hypothesising, often viewed as the ultimate ability in thinking for children, entails putting forward a proposition as worthy of consideration, as possibly true or valid (or false and invalid).

With this schema constructed, the transcript texts were coded, using abbreviations of the category titles. Each contribution by a child was assigned a code or in the case of longer, more complex contributions, it was broken

down into a number of components, each of which was coded. Although overlapping of categories is intended to be minimised, in cases where it arose – and, for example, a contribution seemed to have some claim to be coded both as 'inference' and as 'hypothesis' – the aim was always to assign it to the most appropriate category. Two important considerations governed the categorisation throughout: that there should be consistency across all scripts, and that, in cases where there was some reasonable doubt about the a child's intended meaning, what was plausible in the context was adhered to (in keeping with the recommendation of Walsh, Tolin and Graue, 1993, p. 472).

When codes had been assigned, the totals for each category for each class were tabulated and with the use of an Excel programme the results were documented in chart and graph form for further analysis, which is presented in chapter five. The full set of transcripts on which this analysis is based is presented in appendices one, two and three (for, respectively, junior infants, senior infants, and first class). It is not feasible to include copies of such a large body of data classified under the ten category headings. To offset this absence, however, two compensatory measures are taken. First, as an illustration of how classification was completed, a sample of one classified transcript per class is provided in appendix four. (Although the sample does not demonstrate the children deploying all the categories, the table of total incidence of category deployment shows that they were all deployed in the full body of data.) Second, a more elaborated classification of a small sample extract is offered here, illustrating the kind of data analysis enabled by the categorisation. (This extract is taken from a discussion by first class in transcript 20; the whole transcript is included in appendix three and, in coded form, in appendix four).

Utterance	Code	Categorisation
I disagree with Jonathan, 'cos if the flowers were growing all the time they would	Inf	Inference putting forward an 'if' followed by a condition

need rain first and we get rain in Winter but hardly ever in Summer	Rea	Statement with reason supporting argument
I would like if it was sunny first for a long time and then a bit of rain after it. You'd know where you were...what would happen next.	Sta	Statement proclaiming a personal preference
I think that if there was no such thing as seasons then all the flowers wouldn't be able to grow.	Inf	Inference showing a consequence of a claim
I disagree with John and I agree with Christopher because I think, John, that if the people's birthdays were in November and that was gone then they wouldn't exist and so we wouldn't feel sorry for them. And then Christopher, I agree with you because if they never got to sleep or if they were asleep all the time then we'd never see any animals that hibernate.	Ref Inf Inf	Reflection evident in use of 'agree' and 'disagree' The proposition of people having birthdays in November is put forward, the possibility of their non-existence is argued and a consequence inferred based on this possibility. Inference showing the consequence of a claim

Here I offer a final word of clarification on the place of the whole categorial analysis of chapter five in this overall study and on how it is

intended to relate to the other, more 'qualitative', inductively interpretative analysis, offered in chapter six. A first suggestive way of putting this may be adapted from Woods (1988). Arguing that it is much easier to 'theorise' about something when it has first been 'described', Woods defines 'description' as a verbal or numerical representation of some features of the research and acknowledges that these features are always selective: 'what is selected should of course relate to the focus of the research' (p.145). Adapting Woods' distinction here, one might say that the categorial analysis in chapter four provides a strong descriptive base that is laid down before more nuanced interpretation is undertaken. This is done because of the overview offered. Although it is based on a fragmenting process, the classification yields a visible profile of the children's deployment of thinking categories or discursive strategies that   is in some ways more transparent than what is to be found in the more complex narrative analysis that follows in chapter six. An example may be given here of the kind of information that is yielded by the categorial analysis but is not so forthcoming from the interpretative narratives. This analysis brings into very clear focus the relative frequencies of the occurrence of different categories – and, more particularly, a pattern of change in these frequencies between each of the three classes. And, this pattern is important not only as a research finding but also for the pedagogical implications that stem from it.

The complementary relationship between the two approaches can be put in terms of the analogous relationship between the map of a terrain and a series of detailed photographs of the landscape of that terrain. The map provides a kind of overall orientation that can be lost in the detail of single photographs. But the photographs offer an intimate view of features that are invisible on the map remain.

4.3.3 Interpretation Through Narrative

In this section I say a little more about the narrative interpretations that comprise chapter six. As commonly noted in relation to coding qualitative

data, analysis that relies so centrally on text fragmentation does not do justice to the complexity of conversational interactions (of the kind that go to make up, for instance, a Thinking Time session). More specifically, such analysis does not do justice to transcripts, and the discussions embodied in them, as integral wholes. Its acts of aggregation do provide a valuable perspective on the transcripts as a whole, or those of a particular class. But the very fact that it is fragments that are aggregated, prevents it from comprehending the whole dialogical dynamic in each particular transcript of which the fragments are parts. Stubbs offers a strong argument against using isolated segments of talk as evidence. He argues that it is through the social context, the discourse community that a research reality can be found:

> Classroom researchers are inevitably concerned with using teacher-pupil dialogue as a source of data, and... they should therefore be concerned with how the dialogue works: that is, with teacher-pupil discourse as a linguistic system in its own right... At present, many educational studies are only scratching the surface of the language data which they use (Stubbs; in Adelman, 1981, p.130).

This focus on the whole discussion enacted in each Thinking Time session is a first feature that differentiates the narrative interpretation in chapter six from the categorial analysis in chapter five. And this focus on the whole is part of what justifies the characterisation of this interpretation as 'narrative'. Narrative is becoming a growing element in early childhood education research and assessment (Bruner 1996, Carr, 2004, Pollard, 1996). A first feature of narrative that is relevant here is its holism, its attempts to produce a configuration that comprehends and in some way makes sense of the total field of elements or events. Second, in its way of doing this there is a reciprocal relationship between whole and parts - the whole cannot make sense unless the parts are brought into some pattern of relationship. But, the parts assume their full significance only in the light of the whole that they jointly constitute. Third, a narrative is characterised by a relationship of openness and closure. In the course of being constructed, it is still open. Unbound by prior or extraneous constraints, such as would be constituted by pre-constructed categories, it is free and flexible enough to follow the events as they unfold. And yet it is closed in the sense, that it must follow the events

as they do unfold and, that it must eventually enclose these within a single meaningful frame. Fourth, these events include the actions of the characters in the story and these actions are related through the place they find in the plot. Fifth, although a narrative encompasses a whole, it does not aspire to complete fullness, to produce a one-to-one correlation in its narrative field of the detail of every single action or event in the actual field being narrated. A striving for such exhaustiveness could precisely be a weakness in a narrative – just as minutes of a meeting that gave a blow-by-blow account of everything said at the meeting might be defective precisely as minutes. This brings out a sixth feature of narrative – the fact that although it is the characters who enact the story it is the narrator, rather than they, who tells it. And this in turn leads to a seventh feature of narrative: the fact that it is always constructed from the narrator's point of view (Kermode, 1979). This leads to an eighth feature, the fact that it inevitably entails selection and editing. What can be narrated from or within a particular point of view is constrained by the actual events being narrated. Still, the point of view itself is determined by the narrator and her interest or aim. It is this interest or aim that will determine the selection or editing – what is included and excluded, what is highlighted or left in shadow. And together these features lead to a ninth feature of narrative: the fact that constructing it calls for real narrative skills – skills of a kind that for some methodological theorists may bring it too uncomfortably close to 'art' rather than 'science'.

Much more could be said here about narrative - and of course a great deal more has been said in recent decades as it has come to have a very high profile across a range of disciplines, not only in history and literary theory, but e.g in philosophy, (Arendt, (1958), Ricoeur, (1990), MacIntyre (1981), psychology (Bruner, 1990) and educational studies (Paley, (1981, 1991, 1999) and Mischler, (1986a). But this very popularity of 'narrative' can lead to a lot of looseness and vagueness in its use in any specific setting. It is for this reason that I have tried, in the previous paragraph, to give a succinct account of what I see as its key features. As used here, 'narrative' should perhaps be regarded as an analogous term. Therefore it is important to show that in the present context the analogy has substance and point. What is to be captured

narratively here might be described as 'the richness, complexity and interdependence of events and actions in the real classroom' (Salomon, 1991, p. 16). The power of narrative to capture this complexity has been noted by Elliot Eisner in the context of educational assessment when he advocates that data be collected from the on-going context in which students learn:

> As researchers, we need to design practices in which teachers pay systematic attention to such features and prepare short narratives that would provide a much more replete picture of achievement than a B+ or an 82 on a standardized achievement test (2000, pp.350-351).

The 'events and actions' mentioned by Salomon are the 'speech acts' in this study, the 'complexity and interdependence' of which, within the whole dialogue, need to be brought out. Again, while it is the children as 'characters', who enact the dialogue, it is I as researcher who must tell it as a narrative. In doing so, I must relate individual utterances to each other, as I must notice points of tension, or digression within the overall pattern of the ' plot'. By doing this I create, or discern, a meaningfulness that in all likelihood remained hidden from the dialogue-partners themselves (the narrator always has the benefit of a perspective, if only that of hindsight, which eludes the participants, immersed as they are in the onward flow of events). In this activity of discernment, I am constrained by what the children say – so that I cannot tell any story in the teeth of resistance from what has actually been said. But, I do have a point of view, in this case constructed by the overall aim of this study, which makes the narratives offered here in chapter six different from other narratives that might have been assembled from the same data – but from a different point of view.

While the narrator's point of view is formative, in that it influences the construction that is put on the dialogues and on individual contributions to them, it is important that it be non-judgmental. Its task is reconstruction and interpretation rather than a kind of evaluation that would find children's contributions wanting or deliver a summary verdict on them as for instance 'incorrect' or 'immature' – just as, analogously, the novelist's task is to

understand her characters rather than to praise or condemn them. This withholding of judgement is related to the 'subtlety' of narrative – one of the features, that Stenhouse (1982) identifies as a notable strength of narrative documentation in the context of educational research. But it is important to recognise also that understanding and interpretation cannot be entirely divorced from judgment. First, they themselves are subject to judgment – as to how accurate, reliable, insightful or illuminating they are. And, second, they are ultimately in the service of a different kind of judgement – ultimately in this thesis the judgement as to whether, or to what extent, its central hypothesis does or does not stand up. I shall address each of these points in the next two paragraphs.

4.4 Validity

The first point concerns the very important methodological issue of validity and reliability or - as, according to Walsh, Tolin and Graue (1993, p. 472), these issues should be reframed in the specific context of interpretative research - of 'plausibility' and 'trustability'. Inevitably, plausibility here is partly a matter of context. This study is situated within an ongoing body of research and innovative work relating to the introduction of 'philosophy for children' in early years classrooms. And so one aspect to be considered in judging the plausibility of its interpretations is their degree of overall resonance with findings of other scholars across the larger project and with feedback from teacher practitioners in the field. Another source of confirmation (or disconfirmation) is available through a form of triangulation made possible by the use in this study of two forms of analysis: the findings in the categorial analysis provide an alternative basis from which some check can be run on the interpretations. But apart from these two checks, both of which play some part in the present study, an unavoidable element of the relevant context lies in the researcher. She, herself, is the most important 'instrument' in the study. This brings us back to the skills of the narrator mentioned above, which can be called 'hermeneutical' skills. One may strive to put in place some external checks on one's readings and to rely as much as possible on well tested, publicly accessible procedures. But in the end, just because they are readings, they call for an informed eye or an alert, attentive ear, sensitively

attuned to the data and capable of accurate, critically reflective listening. In carrying out the readings and formulating the interpretations, one needs all the resourcefulness of qualified judgement. It is through this judgement that the 'point of view' of the research is brought into play.

One can say some sensible things about what makes this judgement 'qualified' – the fact, for example, that it strives to honour all the data, that it allows an otherwise attractive interpretation to fall foul of data that do not in fact substantiate it, that it has a good sense of what is relevant or irrelevant in a particular context, that it can make informative connections as well as distinctions as called for by the data. The point here is not to attempt an exhaustive list of qualities or skills such as these. It is, rather, to point out that, while attempts can rightly be made to scaffold them with more 'objective' procedures, in the end they themselves cannot be guaranteed by any such procedures. They form an avoidable element in the repertoire of the researcher conducting this genre of research. This does not imply arbitrariness or sheer 'relativism' with respect to the outcomes of this kind of work. What it does imply, however, is that the plausibility and trustability of the work of any particular researcher in the field is best judged by other qualified practitioners of this kind of research who have themselves developed the kind of judgement that belongs as a practice.

The second point mentioned above concerns the contribution of the interpretative narratives to the wider judgement on the overall hypothesis proposed in this study. One particular facet of that contribution, by contrast with that of the categorial analysis, should be noted. The latter analysis is confined to what is already built into its ten categories. What is built in is essentially different aspects of cognitive process or different kinds of discursive 'moves'. This focus is very valuable in terms of the overall aims of the study. But in itself it is content-neutral. It has no essential reference to the cognitive content that is the subject-matter of the Thinking Time sessions – though it does allow differential analysis of the discussions of the various topics in terms of the frequencies of incidence in each of the cognitive processes covered by the respective categories. A very significant part of the

complementarity between this categorial analysis and the interpretative narratives, then, is that the narratives allow a much fuller and more nuanced focus on content and a more open-ended comprehension of cognitive process. And within the overall context of the study, this is important because any substantial comparison of the childrens's thought with that of the Ionian philosophers cannot exclude content: 'thought', is always 'thinking with content' (as already indicated, the content here falls under the four headings of origin, meteorology, cosmology, and ethics).

Having explained the nature and rationale of the narrative approach to the interpretation of data adopted in this study, I conclude this section with a brief indication of how these narratives are presented in chapter six and a short illustrative sample extract from a transcript accompanied by its narrative reconstruction. The presentation in chapter six is structured in terms of content and class level. First the narrative accounts of the transcripts for junior infants are presented in a sequence working through the four themes as sub-divided into eight topics. After each two narratives on one of the four themes has been presented, a short summary on that theme is offered. And at the end of all eight narratives an overview for that class is presented. This procedure and sequence are then repeated for the other two classes, senior infants and first class. And the chapter ends with an attempt to bring together some of the most significant findings of both this interpretative exercise and the categorial analysis presented in chapter five.

The following is an example of a fragment of a narrative constructed from part of transcript six documenting a Thinking Time session with junior infants:

Utterance	Narrative Interpretation
• The moon is somewhere up in the sky very far away. The wind blows it on different days. • The moon goes away. I think it goes to bed.	The dialogue commences with explanations for the movement of the moon. The wind blowing and the moon going to bed and moving to different countries are all offered as

- The moon moves to different countries.
- When God made the moon and when its day time the moon goes behind the sun and when it's night time the sun goes behind the moon
- God made the moon and he moved it to the sun, the sun, the moon, the sun, the moon
- When its night-time God moves the moon
- When its night-time God moves the sun down and brings the moon up and in the day-time he brings the sun up and the moon down
- When the sun is roundy and then when it happens thunder and lightning rain it cuts it in half (.) and when it is in half God moves the moon and moves it to be a circle
- The lines goes out from the sun and the light from the sun goes out and it turns into the moon

considerations. Observations of the sequences and inter play between the sun and the moon lead the children to suggest that during the day, the moon goes behind the sun and at night, the sun goes behind the moon. God is again given a role in the ordering of this sequence. 'When its' night-time God moves the sun down and brings the moon up and in the day-time he brings the sun up and the moon down'. The possibility that the moon is the sun without rays and with its light turned off is proposed.

4.5 Narrative as a Basis for Analysing Children's Art

I conclude this chapter by mentioning factors involved in the interpretation of the pieces of art-work which, as already explained, were solicited from the

children after each Thinking Time session and included as part of the data for the study. Since these play a supplementary role in the study, a few points may suffice to indicate the approach adopted in 'reading' them. The interpretations offered are not about technique but rather seek to describe what seems to be present in the drawings, with attention focusing on images related to the concepts and ideas discussed in the preceding dialogues. In these descriptions, account is taken of Kitahra's and Matsuishi (2004) recommendation that one should constantly attend to the first impression and the pre-eminence of the whole drawing. Joseph H. Dileo's (1983) claim is also borne in mind that features depicting ideas significant to young artists are drawn larger than less significant thoughts. Children decide which information is important within the context and, in the absence of significant counter-indications, their drawings are taken to display these priorities. Again when a symbol of a theme appears repeatedly in a single drawing it is taken to merit attention. And an attempt is made to describe relationships between features in the drawing, things or actions it depicts, and details of significance to the theme of the preceding discussion. Though guided by the considerations just mentioned, the interpretations offered of the drawings remain more speculative than the interpretations of the children's oral creations as captured in the verbal transcripts. Samples of the drawings themselves, with short interpretative readings of them, are presented as brief interludes between the extensive readings of the children's spoken language. However, while acknowledging the more speculative nature of their interpretation, their presence are intended to shed further light on some of the children's thinking.

Now that the fieldwork for the research has been described and the rationale for approaches to analysing and interpreting the data has been explained, with examples of both approaches, the preliminary findings based on the pre-constructed categories and the topics are presented in the next chapter.

Chapter 5:
Presentation of Preliminary Results

5 1 Preliminary Quantitative Findings

This chapter presents a descriptive summary of the classroom fieldwork. Each child's contribution is assigned a category or categories and the totals for each topic for each class are collated to record the incidences of the categories. The incidences are presented in graph and percentage formats to reveal: the combined total of contributions for the three class groups on each topic, the totals for each of the individual class groups on each topic, the frequency of the pre-constructed categories for the three class groups combined and the frequency of the pre-constructed categories for each individual class group. The preliminary results are now presented, starting with the total for all three classes on each topic followed by the results for junior infants, senior infants and finally, first class. The combined totals of contributions for each class are 469 for junior infants, 723 for senior infants and 776 for first class. The results are presented in block graph and percentage pie-charts.
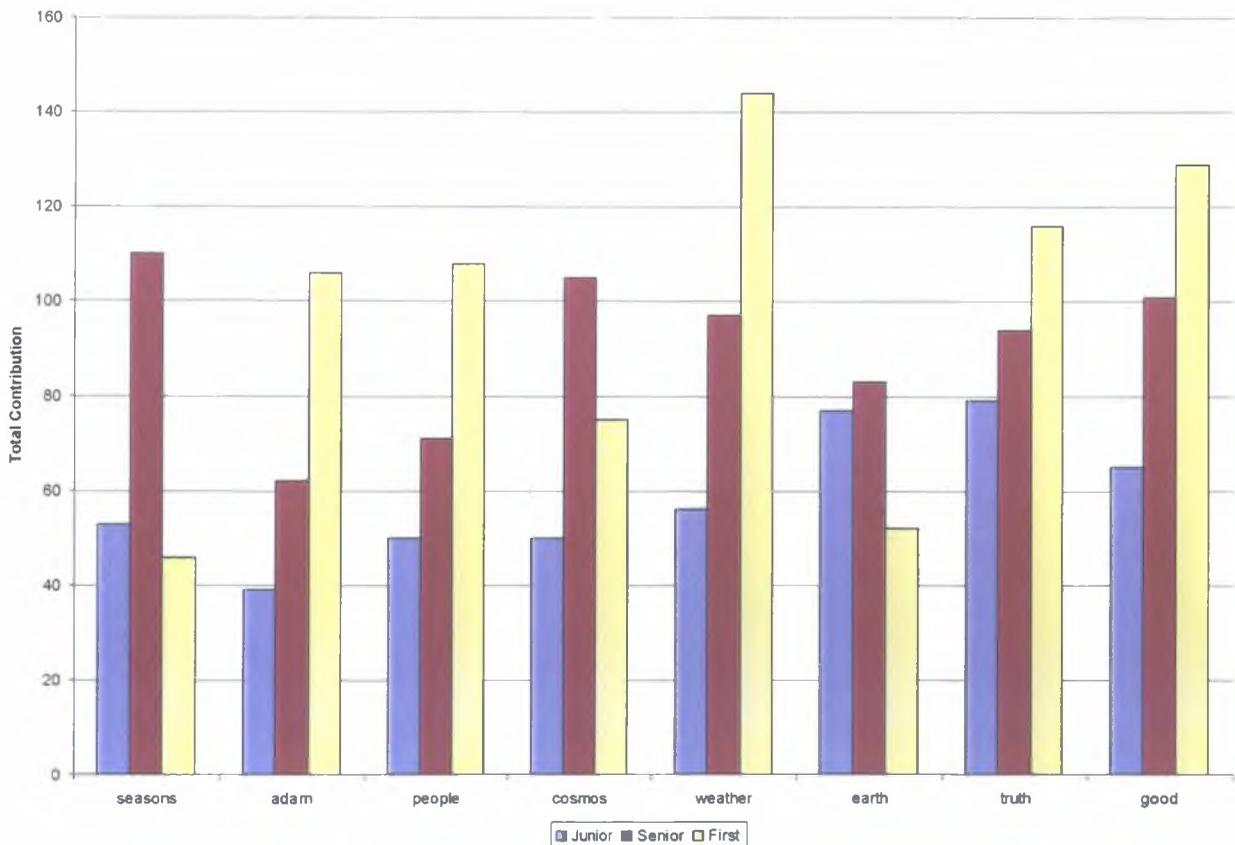
Fig5.1:Total Contributions for Topics

Thinking Time sessions are allocated about thirty-five or forty minutes or until the teacher senses the children have reached a natural end to the conversation. For consistency the sessions are usually held at the same time and on the same day of the week. However, while accepting the possible variation in energy levels of children from session to session, their interest in particular topics creates its own energy and momentum and in some way determines the time. The total amount of talk generated and the children's ability to sustain the conversation is interpreted as indicative of their interest in the subject. In graph 5.1 the variation within each class group can be seen. For the children in junior infants, this spread ranges from thirty-nine contributions to almost eighty. This is a significant variation as one topic creates twice as much talk as another. The reasons for such differences will be reviewed later. The graph displays a notable change between Thinking Time with junior infants compared with senior infants or first class. The highest total of any session is over one hundred and forty contributions from the children in first class on the weather. There is little difference in the totals over the eight sessions between senior infants and first class. However, there are obvious differences within the various topics. Importantly, the children in all three age groups could sustain a dialogue on all of the topics. The information is presented in pie charts starting with the combined total for the three classes.
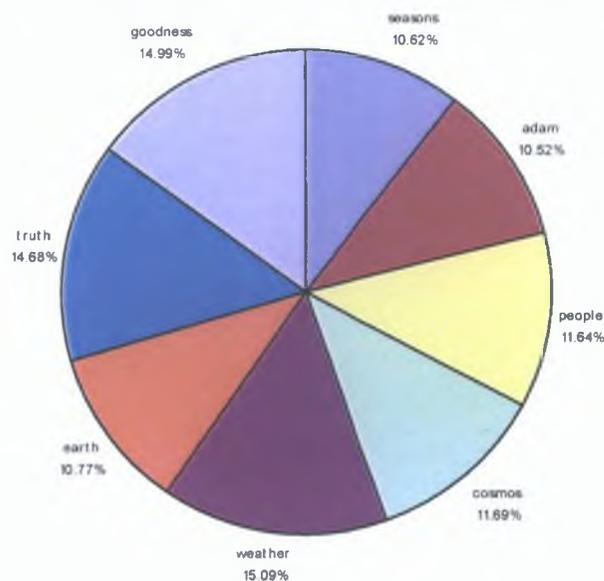
Fig 5.2: Percentage of Total Contributions for all Three Classes Per Topic

By a small percentage, the children have more to say about the weather than the other subjects. This is a result of the contributions of the children in first class. It is not the most talked about topic with the younger children but the six to seven year-olds had so much to say that the average total is increased. This may reflect an emerging interest in making sense of their natural environment, their engagement with and awareness of change. It could also be indicative of children being influenced by the adult community since the weather is the topic of much conversation in Ireland. In addition, it represents a significant move away from the junior infants' interest in the origin of earth. The topic of earth starts with 16.42 percent of junior infant talk, decreases to 11.48 percent of senior infant talk and 6.70 percent of first class talk. As interest in the origin of earth wanes, the percentage of talk about the weather and the natural environment increases, beginning at 11.94 percent for junior infants, 13.42 percent for senior infants and 18.56 percent for first class.

Next in order of appeal are the ethical subjects of goodness and truth. It has been argued that young children are not interested in, or are unable to deal with, ethical matters. These results question such assertions. The children display an ability to deal with the very abstract concepts of good and evil and truth and this capacity will be explored in the next chapter. What is significant for now is the interest the children demonstrate in these subjects.

The cosmology, meteorology and origin of people topics come next in the order of frequency of discussion. There is a natural reciprocation between these, as questions pertaining to the nature of the moon, what makes rain clouds etc. are common questions about existence as well as being cosmological. The nature and role of the moon dominates the dialogues on the cosmos, particularly for the children in junior and senior infants. The children's interest in the seasons, the universe and the first people, all fall within a one per cent variation. Sustained shared thinking is evident on these topics.

All the topics fall within a narrow range with a variation of 4.48% in the totals across all classes. In some way this finding vindicates the choice of topics for the research. A brief overview of the talk generated by each topic within each class gives some more detail to the total figures.
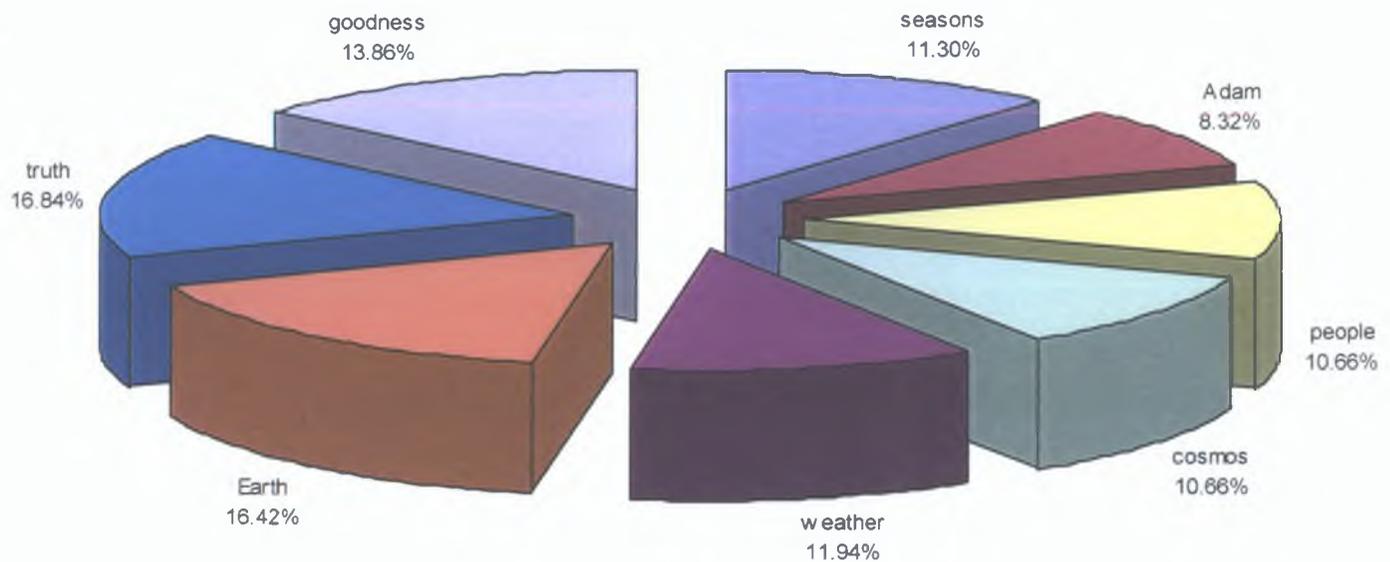
Fig 5.3: Total Junior Infants Contributions on Topics

For the four to five year-old children, it is the subject of truth that intrigues them most. Given the abstract nature of the topic it is significant that this caught the imagination of such young children. Equally, the bigger issue of the origin of the earth stimulated a great deal more talk than the origin of people, or the weather. For many years, practice in early year teaching has concentrated on detail and the immediate in children's environment. While finding the detail of interest, these particular junior infants display an ability and curiosity in the larger context. The Irish Primary Curriculum is typical of many early years curricula as has been demonstrated in chapter one (p.14). There is still some misunderstanding of young children's ability to engage with broader, more general and abstract thoughts and concepts. Truth, the origin of earth and goodness rank as the three subjects the four to five year-old children talked most about. This is followed by the weather and the seasons at 11.94 and 11.30 per cent respectively. Interestingly, the moon as part of the

cosmos and people, elicited the same amount of talk. As our nearest neighbour in the solar system it also intrigues many adults. Some claim our moods and psychic state can or may be influenced by the positioning of the moon in relation to the earth. This indeed is where the word 'lunacy', from 'luna,' meaning moon comes. The moon, as has been shown in chapter three, held great interest for philosophers such as Anaxagoras.

Wondering about the first people on earth is influenced by the Bible story of Adam and Eve for these children. It accounts for 8.32 per cent of the total talk. Again the greater issue of the earth caused more talk than the particular one of the human species. Overall this class of four to five year-old children engaged in and sustained class-based dialogues with the support of their teacher on topics of universal and philosophical interest. This is a significant finding.
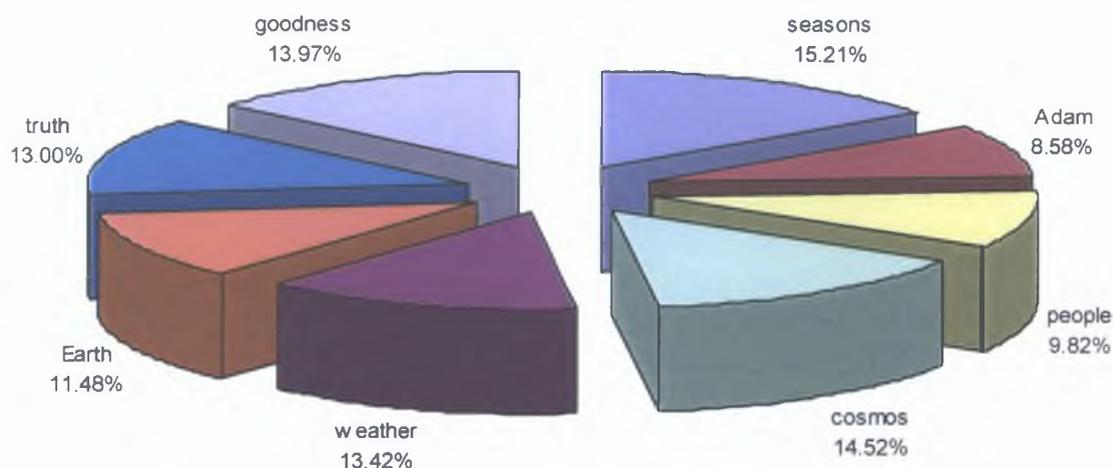
Fig 5.4: Total Senior Infant Contributions for Topics

For senior infants, the seasons and the cosmos were the most talked about topics at 15.21 and 14.52 percent. This is indicative of their interest,

and, importantly, their awareness of the coming and going of the seasons throughout the year. The desire to understand the changing pattern of the seasons was also of great interest to the natural philosophers. As in the case of children in junior infants, the moon holds a curiosity for the children in senior infants. This may derive from their own observation or it may be influenced by the many poems, books and stories told to children about the moon. Goodness, the weather and truth emerge at 13.97, 13.42 and 13.00 percent respectively. The ethical/ moral issues of goodness and truth sustain a high and almost equal amount of thinking for the children. This is consistent with the finding for junior infants. Three of the top four topics for senior infants are the seasons, the cosmos and the weather. The natural curriculum, the natural environment is the source of conversation for these children. The origin of Earth accounts for 11.48 per cent of the total talk and people and the story of Adam and Eve are clustered at 9.82 and 8.58 percent. The subject of People registered the lowest percentage score for these five-to-six year-olds and the Seasons the highest. The difference is significant being almost double.
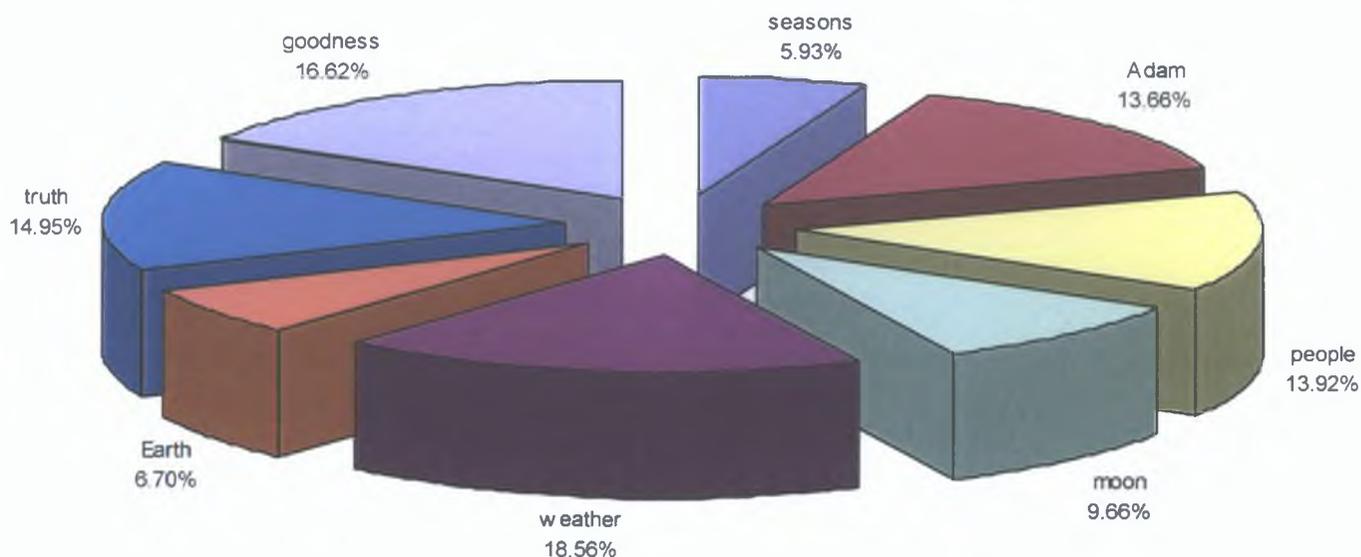
Fig 5.5: Total First Class Contributions for Topics

For the children in first class, discussing the weather accounts for almost one-fifth of the talk. This can be found in the use of language. Phrases such as 'it's a fine day' or 'that day won't last' are all used in parts of Ireland as greetings when people meet each other. This fascination with the weather applies to many if not all cultures. There are a number of possible reasons for this. The weather is in continuous flux. Also, and possibly more intriguing for humans, we have no control over it. It escapes any attempt of ordering by humans. Understanding and recording it are possible but prediction of it will never be an exact science. The results of this research may imply that by the age of seven, the children have adopted the cultural mores of the adults around them. They have a great deal to say about the weather. For an island nation, situated on the west of Europe facing the Atlantic Ocean, this is understandable.

In keeping with the findings from the previous two classes, goodness and truth register highly within the total talk at 16.62 and 14.95 percent respectively. Proportionally, first class had a greater interest in people and the story of Adam and Eve than the younger children. Equally, they displayed less of an interest in the seasons and the earth compared with junior infants who record 11.30 and 16.42 percent respectively and first class recording 5.93 and 6.70 percent for the same topics. The children in first class had the greatest span of discussion within the three research classes, with a variation across the topics of 12.63 percent with Weather scoring three times more than Seasons. This spread of talk is reflected in their wider and more competent use of language categories for thinking and talking as will be shown in the next section of the analysis.

This initial exploration of the dialogues suggests that children aged from four to seven years have an interest and willingness to discuss abstract and ethical issues within a classroom of enquiry. The breadth of their interest is evident in their application to diverse topics from the origin of people to the nature of truth. Within the class groupings there are variations in the length of the dialogues, the average script for junior infants being three pages whereas

the average for first class is nine. The longest script is first class' dialogue on good and evil, taking up eleven pages of transcription.

The talk generated by the children provides the data to be analysed in more detailed analysis. A review of the data using the pre-constructed categories of reflection, comparing/ contrasting, making a statement, giving a reason, making a judgement, offering a question, using an analogy, making an inference and creating a hypothesis will elaborate and augment this initial structure.
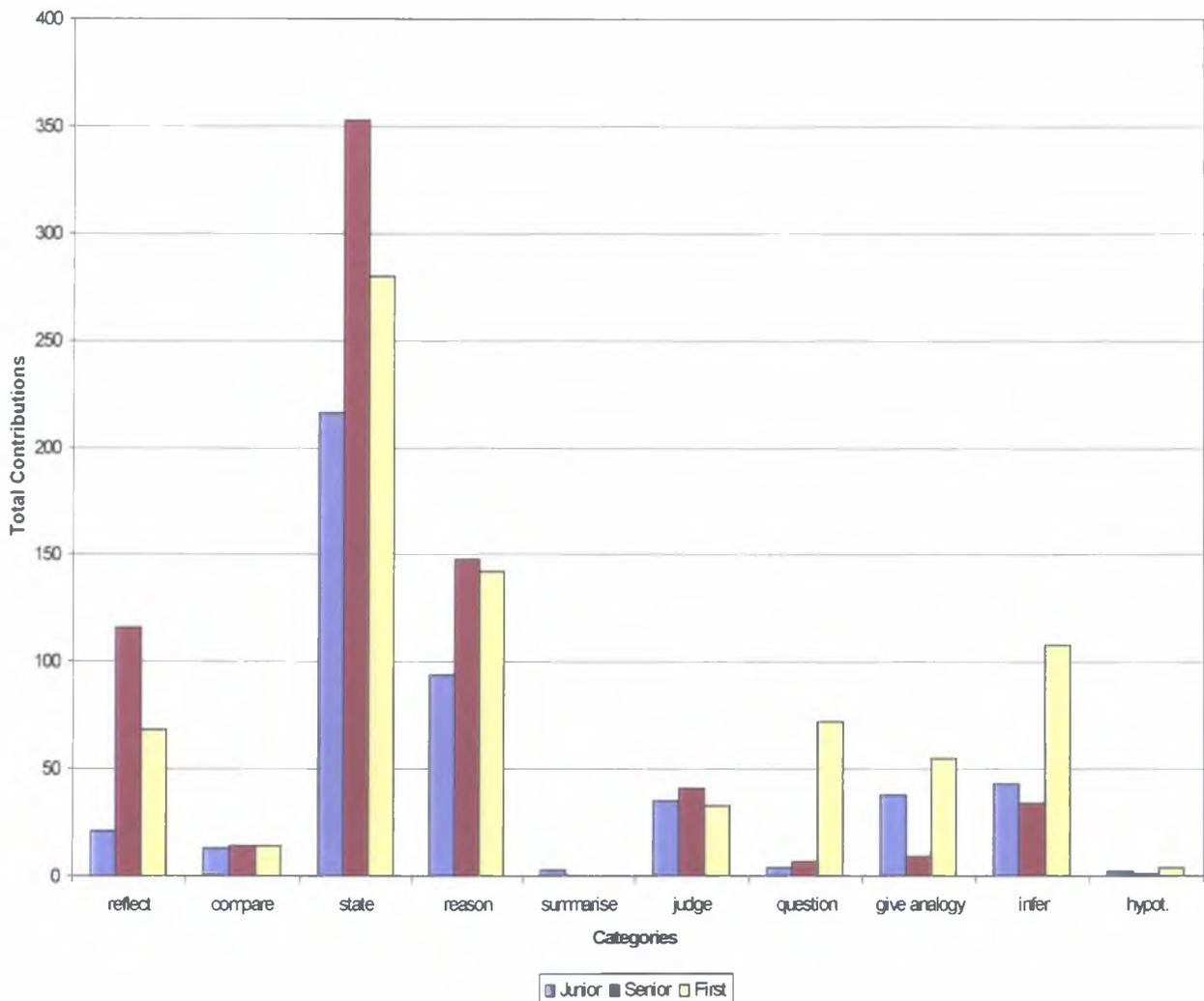
Fig 5.6: Total Contributions of Categories of Thought by Class

The talk for all three classes is clustered around giving a statement and offering a reason with a statement and represents common usage of speech in everyday conversation or as Adelman refers to it 'the ordinariness

of talk' (1981). The format of Thinking Time allows for focused conversation. It is not a teacher-directed exercise although it is teacher-scaffolded. Philosophical topics lend themselves to abstract thinking. Equally making a statement and giving a reason are the processes that scaffold the other thought and language functions. Both socially and cognitively this initial conversation leads to the complex conversation. This is tracked in telling the narratives of the topics in the next chapter. The presence of the initial talk is necessary to establish boundaries on the topic. It is equally valuable as talk in its own right as well as a scaffold into the other processes.
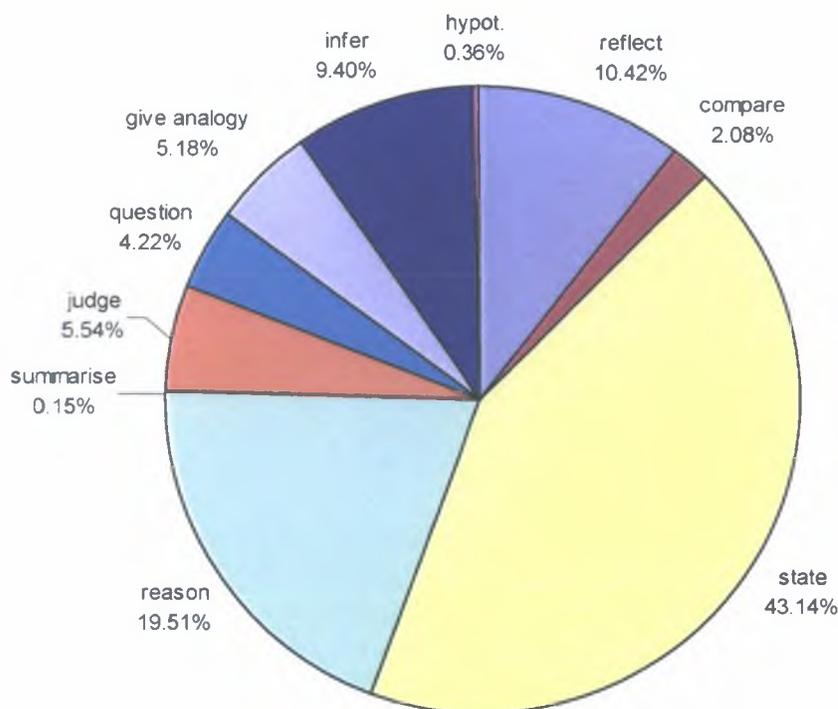
Fig 5.7: Total Categories of Thought

Making a statement accounts for a substantial part of the children's talk at 43.14 percent. This is significant as one of the educational purposes of Thinking Time is to encourage children to find a voice and to be aware of their own thoughts and the thoughts of others. This finding demonstrates children's

interest in focused talk. When presented with the opportunity, children do have something to say on topics of a philosophical nature. Offering a reason follows at 19.51 percent. The teachers' role as participant in the process is to encourage and model language and thinking structures like the use of 'because'. Reflection includes comments displaying a consciousness of thought like 'I wonder...' or 'maybe...'. These spoken musings can often be incomplete or express in-process thoughts and are central to Thinking Time when children think aloud without the pressure of responding to a teacher-directed question. The verbalisation of thought processes is relevant to Vygotsky's understanding of the connection between thought and language as related in chapter one.

Inferential thinking scores quite high at 9.40 per cent of the total. This is often connected to a subject matter and in this research is found primarily in the ethical topics when the children reflect on the implications of moral judgements. Some subjects lend themselves more to drawing inferences than others. In comparative research on Thinking Time, topics based on hypothetical scenarios beginning with 'if', for example, *If Fish Could Fly* or *If We could Live Forever*, result in a high level of inferential thinking. Judgements are also found in the ethical issues in this research. Arriving at a conclusion or making a judgement and the employment of analogies come within 0.32 per cent of each other. The children evoke examples and analogies from their own lives and the lives of others to discuss and understand the ethical topics. For the children, examples and experiences are the sources for the arguments needed to make a judgement.

Of all of the children's talk, only 4.21 percent of it is represented in questions. Children are by nature questioners. They ask why things happen, why people do things, when something will take place etc. Yet in the school setting when given the opportunity, questions do not feature to a significant extent. The interesting result from this research is the difference between the children in first class, 9.28 percent, compared to the younger children in junior infants, 0.85 percent and senior infants 0.97 percent. This difference or change within the age ranges is notable and significant. Entering into a

dialogue, listening carefully to the contributions of others and readjusting and developing one's own arguments in the light of others' thoughts demands considerable concentration and skill. It may be that questioning the arguments of others is a further development on this continuum.

The ability to make a comparison is not very evident. It may be that holding, developing and verbalising one thought is as much as the children can manage cognitively. The same may be the case for the children's capacity to form a hypothesis and to summarise. Thinking Time probably does not elicit the ability to summarise as it is open-ended. However, the fact these more abstract mental functions are present at all is significant as they represent where learning for the children is emerging, in Vygotskian terms, within the zone of proximal development.

A brief overview of the language and thinking within the selected categories and with some examples, for each of the classes gives a clearer image of the dialogues.
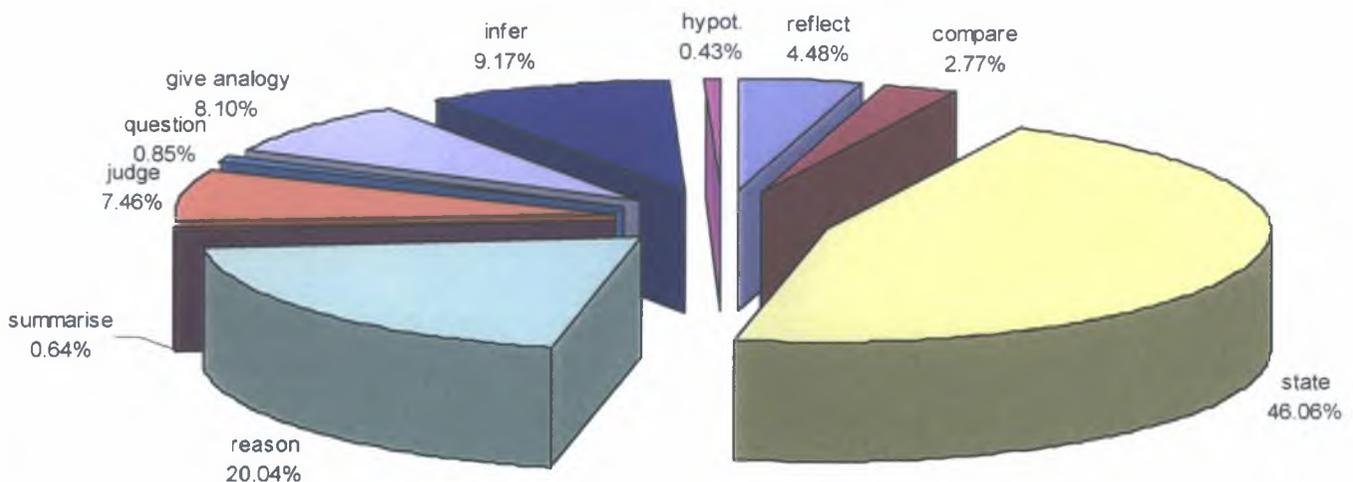
Fig 5.8: Total Categories of Thought (Junior Infants)

The majority, almost half of the junior infants' dialogue, falls within the making a statement category. 'The world goes around to the moon and the sun' (script 6). The importance of these four to five-year-olds partaking in the conversation is not to be underestimated. Being competent and willing to

create and articulate a statement on a given topic is the basis for all other language development. 20.04 percent of the children's conversation falls in the category of giving a reason or explaining a statement. 'In the garden they ate the apple because the snake wanted to trick them' (script 1). 'When the rain bursts in the clouds, it get fuller and splits up and the rain comes down' (script 3). This is in keeping with the total results and reflects the need for young children to repeat the basic structure in order to find ways into higher-order structures. There is an analogy with play in that young children will repeat and repeat a play activity until it develops into something beyond the initial play. This pattern is replicated in Thinking Time.

The categories of judgement, analogy/ example and inferences fall between 7 and 9 percent. That these cognitive processes are developing simultaneously is noteworthy. A judgement can be found in condemning God, 'God was wrong and they really had to die and they went up to Heaven' (script 1). This child creates an analogy to illustrate her point, 'Once when there's dinosaurs asleep in their cage, another dinosaur keeps bashing into their cage to rob their little babies. Bad people rob the good people' (script 8). Inference is found based on the assumption of builders being involved in origin, 'If builders made the world, then they could fly in an aeroplane and drop down cement' (script 5). The topic of truth and lies scored very highly on inferential thinking. The implications of lying are the cause of this. 'I think if you tell a lie you won't get any presents off Santy, at all' (script 7). Equally, analogies and examples scored highly on this topic. The children give an example or analogy to make a judgement and from this judgement infer an outcome. 'If you were tidying your room and you weren't allowed to go out until it was tidy and you said your room was tidy and it wasn't, that would be a lie' (script 7). Reflections and comparisons account for 4.47 and 2.77 percent respectively. 'I wonder how the moon goes away' (script 6). Making comparisons increased with the dialogue on good and evil. It was also present for the topic on the moon. 'Why God made the moon is because they can know which is which. Like the sun doesn't have two of them but the moon does. When it's daytime the sun comes out. Then if you see the prickles coming off, it looks like the moon and then it changes into the moon and dark

and if the half moon is gone, that means you call it a half-moon. If it's not it's still round. That means you call it a full moon.'(script 6). This child's ability to explain difference and follow through her reasoning is quite impressive even if not scientifically valid. However, her contribution is an exception in this class of junior infants. The ability to articulate a comparison is barely present among the four-to-five year-olds.

Summarising, offering a question, and hypothesising, all score under one percent of the total contributions from junior infants. The following is one child's attempt at summarising the story of the Garden of Eden. 'All the people ate the apple until another apple growed and then all the people ate a piece of it and broke it in half and then when that happened, they all went home and they made offerings' (script 1). The questions from junior infants are often one word. 'Trees?', 'Ice?', and 'Who is?' are all examples. One needs to be cautious about making judgements in relation to young children's ability to form a hypothesis or a syllogism as these are understood by adults but in careful listening to some of the children's contributions, an emerging ability in hypothesing is evident. 'Truth is good and you have to tell the truth because then you good' (script 7). 'The bad people have powers and the good people don't have powers because when the good people are nice and the bad people are not nice that says that the bad people don't get nice and the good people do' (script 8).

The elements of emerging thinking ability found in the children's collective discussions are where teaching can be most effective. For the children in junior infants these are hypothesing, comparing, questioning and summarising. The discussion on earth scored highest on statements and the moon was a focal point for reasoning and clarifying thought for the children. Inferential and hypothetical thinking are concentrated in the ethical issues particularly with the youngest children. There are thirty inferential statements in the ethical/moral theme with junior infants compared to six in meteorology, seven in cosmos and none in origin.
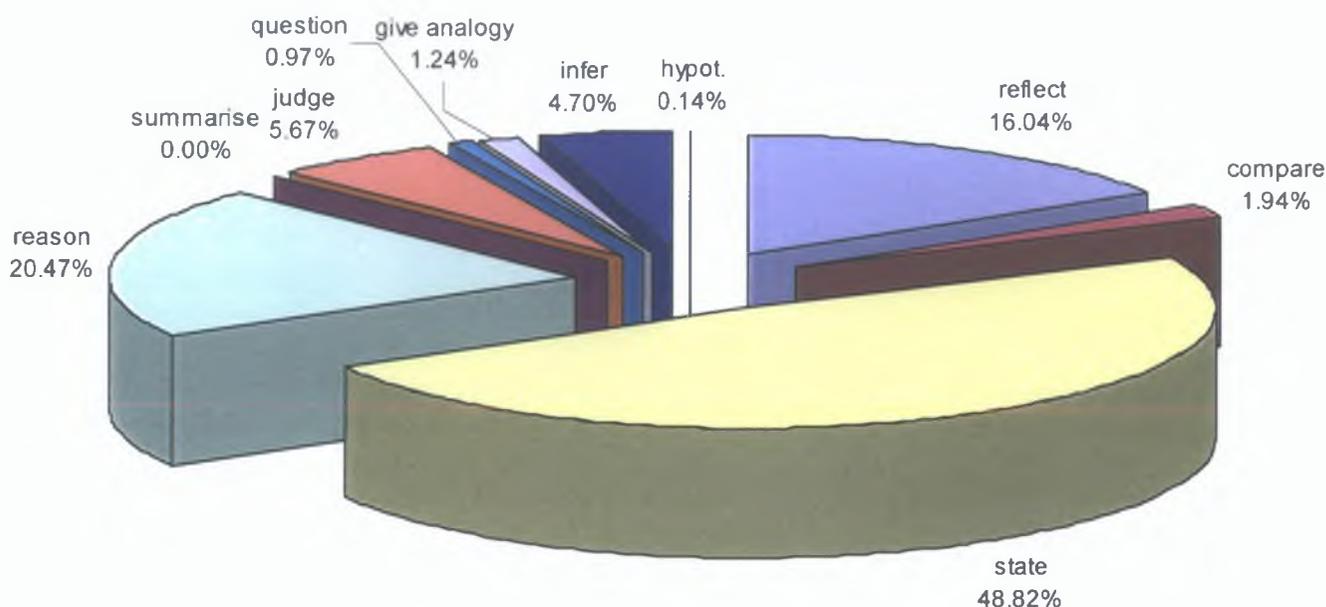
Fig 5.9: Total Categories of Thought (Senior Infants)

In keeping with the talk pattern of the junior infants, statements dominate the conversation of the children in senior infants (five-to-six year-olds) also. They represent almost half of their contributions. 'I don't think God put the sun or moon there. It just grew and grew and grew' (script 14). 20.47 percent of their talk is giving a reason. 'God let us live here because he didn't want us to walk around on nothing' (script 13). It can still be non-sequitur as is seen in, 'Trees don't have a language because they stay still' (script 12). Reflection accounts for 16.05 percent of the total, a substantial increase on the junior infants 4.48 percent. This may be an indication of the children's growing metacognitive abilities. Some examples of the children's reflective thought are evident in the following: 'Maybe God just didn't feel comfortable with all the weather' (script 12); 'I agree with Allie, Stephen and Ciaran' (script 15); 'I would and I wouldn't like to go because you might fall off or go down one of the holes. I don't know why' (script 14). Such phrases as, 'I don't know why', spoken by a child in the community of the classroom, represent the open enquiry that is the aim of Thinking Time. Judgements and inferences are

within one percent of each other at 5.67 and 4.70 percent respectively. The judgements are often, though not always, connected to the work of God. 'He shouldn't have made the trees' (script 9). The moral issue of right and wrong finds voice in the story of *The True Story of the Three Little Pigs*: 'The three pigs, the last one was very mean and he was the smartest of them all but he still could have put a bag of sugar on the window' (script 15). Story provides a focus for children to understand and negotiate moral dilemmas. Indeed story is also the source of much adult understanding of moral issues as can be observed in the role of the myths and the use of story in religious tracts such as the Bible. Inferences by their structure are rational but are also the source of imaginative thought. 'They lived in caves and they didn't have any clothes so they had to go out and kill' (script 10). 'I wouldn't like to go. If you fell off [the moon] mightn't see your parents again' (script 14). 'When you're looking outside thunder might make your eyes sore and then you might get blind' (script 12). Although comparisons register at only 1.93 percent, the children are quite definite when they use them. There is little room for ambiguity: 'There were loads of animals and some were bad and some were good' (script 9). They are aware of difference as a means of defining something: 'The sun is yellow and the moon is white' (script 14). They also speculate as to the reasoning behind the difference: 'God planted trees so he'd have something bigger than flowers and grass' (script 13).

With all three classes, but in particular with the children in senior infants and first class, examples and analogies are invoked when a thinking process becomes difficult. 'The sun is like a bulb but it's not' (script 14). 'Once when I was three, my brother told a lie, the devil didn't come' (script 15). This highlights the importance of encouraging and giving the opportunity to children to express their thinking through such processes. Thinking Time is a tool for thinking and talking. The children scaffold each other's thinking thus assisting new pathways in thought to be found. Although representing a very small percent, 0.96, the questions of the senior infants read as a very natural part of the conversations. The children are comfortable questioning their peers. 'Do birds have a language?' (script 11) 'Can't have a new season because what months would it be?' (script 11) 'Do people live on planets?'

(script 14) Signs of hypothetical thinking are barely present at 0.13 per cent. Although representing a very small percent of the talk by this class, it is of educational interest to reflect on how it is present. Tracking a child's thought reveals the emergence of hypothetical process as can be seen from this example when a child puts forward a thought, supports his argument and then comes to a conclusion. 'I think it's their bodies and they make nests. They can fly and they have a different body. A different body makes a different language. Different bodies make a difference' (script 11).

In the senior infants' total of seven hundred and twenty three contributions, there are no attempts at summarising. This is an important and significant result and its implications will be discussed in chapters five and six. The ability of this class to articulate reflective thought distinguishes them from the younger children. However, like the class of junior infants, the children in senior infants display an emerging ability in particular higher-order processes. How their obvious capacity to reflect may assist the development of these will be worth investigating. Reflection, metacognition and awareness of thought are central to facilitating other higher-order cognitive functions coming to light. Senior infants' ability to reflect can be read as signifying potential.
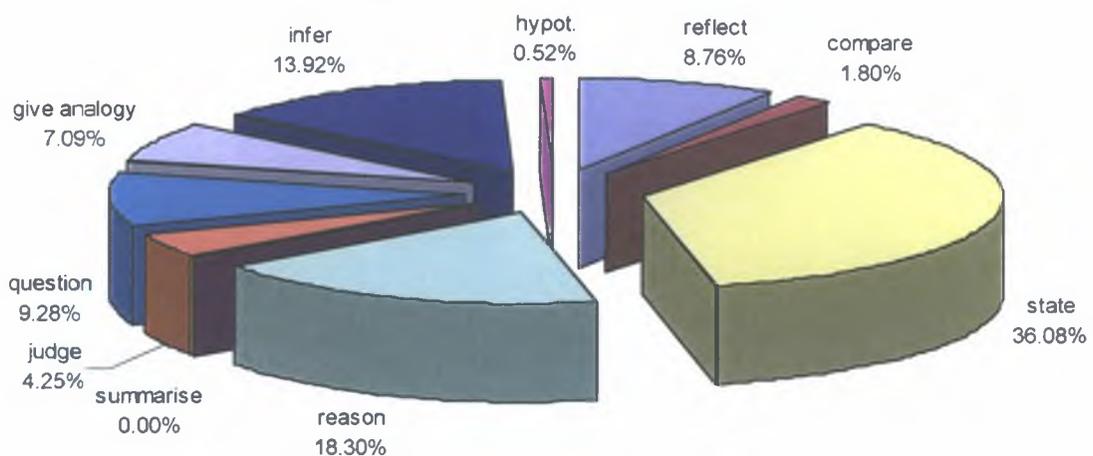
Fig 5.10: Total Categories of Thought (First Class)

Statements are not as prominent for first class as they are for junior and senior infants but they still account for the highest percentage of contributions at 36 percent. There is a significant spread across the categories; rather than the bunching of talk for the younger children, in the case of the six to seven year olds there is an opening up of thinking abilities as can be seen in the increase of questions, inferences and analogies. The children's repertoire has grown. They say more and importantly, they use more and differing ways of doing.

Within their contributions, there is also a noticeable increase in length: 'I think I know why...I think I know why the serpent.... I think the serpent worked for God and then he told them to eat the apples so God will make them go out of the garden and then God made more people and the serpent told them and then he made more, he made more and the serpent keeped telling them so they'll go out' (script 17). This particular example also provides an unusual interpretation on how the earth was populated. Offering a reason accounts for 18.29 percent of the first class total. When they give a reason, the children sometimes combine the general and the particular. 'I think they felt lonely 'cos they're in the wilderness on their own and they have nothing to eat and everything' (script 17). There is a significant percentage of inferential thinking, 13.91, with first class: 'If we had spring all the time the flowers would be just getting bigger and bigger' (script 20); 'If there were no girls and you grew up you couldn't have a girlfriend' (script 18); 'I think that something is true because if it wasn't it wouldn't be there' (script 23). Questions represent 9.27 percent of the talk. This is an important finding as questions represented 0.85 percent and 0.97percent for junior and senior infants respectively. The increase is notable and interestingly some of the questions challenge statements by other children and demand clarification and evidence. 'How do you know?' (script 22), 'Like do you mean what are stars for?' (script 22). Demanding proof for an argument is very present in their questions. 'How come I'm not turning if the world is whirling around?' (script 21) These interactions reflect sustained shared thinking. It is a shared search for meaning. The communication and dialogue within the class generate reflective comments and awareness by the children of their own thinking:

'I can answer your question...'.

'I have two ideas....'

'I have two questions to say...'

'And I think I know why...'

'I think I disagree with John....'

'I think that 'em. This is what confuses me....'

In keeping with the other classes, first class children also use analogies and examples when cognitive processes become complex for them. This is represented by 7.08 percent of total contributions. 'It's like a pipe coming down and it blows the other wind slow...slowly' (script 19). Another child invites his peers to follow him mentally: 'imagine if someone said to you that Fitzgerald Park was never there. And if you went down to see it, it would be there or maybe it wouldn't. You'd never know' (script 23). Again analogy is a scaffold on which to build an argument as has been seen with the other classes. Judgements are in the main rooted within the ethical topics and often involve God. However, the majority of judgements in first class are on the topic of origin, forty-two contributions compared to thirty-one in the ethics topics. 'God only made people. I don't think he made them bad or good' (script 24). The following inference, followed by a judgement and another inference takes a hypothetical form. 'If we had no seasons it would be staying warm all the time. That would be bad cos if it would be hot all the time and you wanted cold there would be no cold there' (script 20). While comparisons and hypothetical thinking do not register in any significant way at 1.80 and 0.51 percent respectively, they are present, if only for a small number of children. Articulating complex and reflective thought while cognitively retaining an argument is a demanding process. 'If you forgot all the words Miss, and then you said all the words were dead. They can't be because you said 'all the words are dead'. Then you'd be saying some of them and I agree with every boy in the class who said something because words can't be dead because they're saying them' (script 23). This type of contribution needs concentration, opportunity, time and encouragement to come to fruition.

There are no contributions that attempt to summarise. This may be due to the nature of the dialogues as no conclusion is sought or vote taken.

5.2 Conclusion

By employing various forms of language structure, children can sustain attention, elaborate concepts and develop arguments on topics of a philosophical nature. Making statements dominates for all three classes studied. The children in junior infants also show ability in giving a reason, inferring, using analogies and offering judgements. However, questioning, comparing, summarising and hypothesising are not represented to any significant degree. A similar pattern is evident in the case of the children in senior infants. However, there are differences. Analogies are not as present as with the junior infants but are utilized effectively by both senior infant and first class children when their thinking becomes indistinct or blocked. A stronger showing in statements being supported by justification and a notable increase in the ability to reflect emerges in senior infants. There is a greater spread across the categories with the children in first class and a significant increase in questions asked. Again, comparing, hypothesising and summarising register a very low percentage and at times are non-existent. There are developments and changes in the content and thought processes in the children's dialogues from junior infants to first class. The presence of observable metacognitive tools of thought in senior infants' ability to reflect is extended and given more detail in first class. The interactions between the children in first class, as evident in their direct questioning of each other, are relevant factors in this and an illustration of Vygotsky's theory of how the interpersonal is the basis for the development of higher-order thinking. This is not to suggest that metacognition does not exist with the junior infants; rather it is not as elaborated or as distinct.

All of the topics on origin, cosmology, meteorology and ethics stimulated sustained, shared talk by the children in all three classes. There are variations within this finding as has been shown but it is clear the natural

environment proved a rich source for talk. The children show an awareness of change, of nature's time, as is evident in their being intrigued with the weather and the moon. This possibly questions De Bourgoing's claim of our alienation from nature's time (p.48) or may be an indication that children are aware and connected to nature's time and gradually lose that awareness. It may be one of the outcomes of having electricity to heat and light our homes. It could also possibly be one of the negative effects of schooling in that the natural environment becomes theorised into set curriculum and distanced from everyday living, thereby becoming alienated and externalised. Official knowledge, that is school curriculum, is in most cases a good thing but retaining children's natural curiosity and finding a balance with set curriculum is the challenge.

Overall this analysis of the research has identified a curiosity and interest on the part of the children in focused talk and their ability to utilise some higher-order thinking processes in discussion. Because these skills and patterns of thought are manifested through topics that have potential to be philosophical and because these higher-order thinking skills are articulated through dialogue, it is the argument of this thesis that in the context of Thinking Time, these thoughts are philosophical. The children's dialogical repertoire is largely contained within certain language structures and displays an emerging ability in others. These patterns of thinking and talking, based on an analysis of the individual contributions of the children, are the bases for further analysis of the learning milieu, of the collective thinking of the three class groupings in chapter six. Two central findings of this initial analysis are, firstly, the children share an interest in the cosmological, in meteorology and in origin with the natural philosophers and, secondly, there appears to be a greater connection between the thinking patterns of the children in senior infants and first class than with the children in junior infants. The preliminary findings go some way in addressing the questions of this thesis investigating the hypothesis that children's thinking exemplified in and facilitated by Thinking Time has significant parallels with the thinking of the selected Ionian philosophers. Further analysis in chapter six will elaborate these initial findings.

Chapter 6:
The Children's Narratives

6.1 Introduction

The purpose of this thesis is to investigate young children's perceptions and concepts on the themes of origin, meteorology, cosmology and ethics and to understand the parallels in their thoughts to the work of the natural philosophers at the beginning of Western philosophy. Children in three classes, junior infants, senior infants and first class, participated in eight selected dialogues during the spring term of 2000. There are two topics for each of the four themes under investigation. Adam and Eve and the First People are classified under origin, Weather and the Seasons under meteorology, the Earth and the Cosmos under cosmology and Truth and Goodness under ethics. There are overlaps in allocation of topics to theme but these general demarcations give order to the data. In this chapter the story of each dialogue is documented to account for what the children had to say and to appraise how each topic evolved. Each theme is then reviewed after the two topics related to it have been narrated and some significant correlations between the comments of the children and the opinions of the selected philosophers are noted. This is on a class basis starting with junior infants. In presenting the narratives of the dialogues some references will be made to the contributions of the teachers. As outlined in chapter one (p.19), this teaching is non-directive and works as a scaffold for the children's thinking. A sample of the children's drawings is presented after the narratives related to the theme. Through art children express, investigate and communicate. A number of the children's drawings are selected to give a flavour of the children's reflections after the Thinking Time sessions. These are also reviewed under the four themes of origin, meteorology, the cosmos and ethics. The evidence of thinking and understanding by each class is then summarised. The chapter concludes by drawing together the analysis from the three classes.

As outlined in chapter one (p.19), the children and their teacher know from the previous day the topic for discussion and have agreed who will open the dialogue.

6.2 Junior Infants

6.2.1 Script One: Adam and Eve

A child opens this dialogue by stating her dislike of the snake because the snake told Eve to eat the fruit. The children refer to the story and then move on to discussing what Adam and Eve did all day and what the garden of Eden looked like. 'They just ate and watched television'. 'The garden was full of flowers and had a waterfall in the middle'. A critical thought questions the story and the child wonders if God was just joking as Adam and Eve did not die. When they ate the fruit, they changed 'they turned into another one in another life' according to one child. The teacher asks if Adam and Eve knew they were people and what they did all day. In response the children suggest, they listened to God, they climbed trees to get fruit and it was a lovely garden 'down in the country'. The teacher then inquires as to how there are people all over the world now and they are different colours. The children pursue the consequences of Adam and Eve's actions and how they were punished. The implications of their actions are explained in moral terms by a child, 'the fruit growed love but they didn't listen to God and they thought it was real fruit and they just ate it'. The teacher then repeats her question as to how all the people came on earth. Two children take up this question, replying that God made all the people. One child adds some detail to this 'I know how all the people were full of the world because God made all them and everyday he made ten more and he was tired so after lunch time he kept on waking'. Having responded to their teacher the children return to the story. They are very engrossed in the detail and suggest there was a ladder lying in the grass for Adam and Eve to climb to the top of the tree to reach the fruit. A child makes an attempt at understanding the snake 'God made the snake first and then the people, but the snake thought the people were snakes because...' but cannot take her thought further. The rights and wrongs of the situation are further discussed and then the teacher asks what happened to the garden afterwards. It became all 'crusty' according to one child and then she develops this into a sequel of Adam and Eve going in search of a new garden. Another child suggests the 'grass growed really big and when the grass

growed really big, there was a big bubble and it lifted the garden up'. So the dialogue ends.

6.2.2 Script Two: The First People

The teacher introduces this dialogue by asking the children who made the first people and how were they made. God, other men and doctors are all cited as being responsible for creating the first people. The conversation is diverted into commenting about the making of the world and the teacher goes with this and asks when and how the world was made. One child replies it was made one hundred and fifty years ago and then the dialogue reverts to the topic with 'God made the people, the people ran into the world'. The idea that people are made from some 'secret stuff' or 'magic stuff' is proposed.

The connection with other creatures is made as God also made the frogs and fish. Detail of the life cycle is described 'God made two people. They had babies. They had mostly girl babies and they became more people'. The origin of the world is re-introduced with the suggestion that God made the world from pancakes and then the builders made the people and their houses. The connection here seems to be the circle shape of the pancakes and the child's vision of the world. The teacher asks how the first people would have felt and if they would have been lonely. People were made up in heaven and then they came to earth. There is some detail added to this. 'God and Jesus made the people's bones first and Jesus made the skin and they came down to earth'. The idea of people starting out as ghosts is asserted. 'God made the universe and the people and the people were ghosts'. Further exploration of how people were made is followed by an observation on earth. 'Earth is trapped and floating in water. Then stuck there'. A child suggests the first man was made one hundred and forty years ago. An imaginative story-like explanation is then offered with the following contribution. 'A frog went on a flying pig and a pig went onto the world and people went on it and God made the world so quick so they couldn't feel on the ground.' The moon also makes an appearance and a possible explanation as to how it came to be. 'God was having a bath and he had a little trap and he banged it and it fell down on the moon and the moon smashed the world.' And so the dialogue ends.

6.2.3 Theme Review: Origin

Throughout the dialogue on Adam and Eve, the children stay very much within the confines of the story and display a great interest in the possible detail of how things might have happened and the consequences of the events. Within the confines of the story they do show signs of critical thought about the outcome of the action. They portray and describe a green and beautiful utopia. The symbolism of the apple is grasped by some of the children.

The children view a higher power and doctors as being responsible for the making of people in the second dialogue. They talk of the beginning as one would an art project. At times it reads as a literal interpretation of 'making'. They think of the possible materials and then the possible procedures to construct the people. 'Magic stuff', bones and skin are all mentioned and once constructed the people were put on earth. The origin of people stimulates reflection on the beginning of earth. There is a sense of curiosity and wonder about the cosmos in this conversation.

In both dialogues the children deal with the concept of the origin of people both from micro and macro levels. They discuss the details of Adam and Eve's lives and the substance people are made from while also reflecting on the purpose of it all. In wondering about the first people, the children expand their conversation to thoughts on the moon and the beginning of the earth. There are two direct links with the thoughts of the natural philosophers. A child's assertion that the earth is floating on water resonates with Thales' thinking and the children's search for the original substance of people which some decide is 'secret' or 'magic' 'stuff' reflects a similar search by the early philosophers. However, these links are tentative as the ideas of the children are somewhat rudimentary compared to the systematic thinking of the philosophers. The children's ideas also have mythic connections particularly the concept of people starting out as ghosts and then becoming people.

6.2.4 Children's Pictures: Origin

Fig 6.1

Fig 6.2
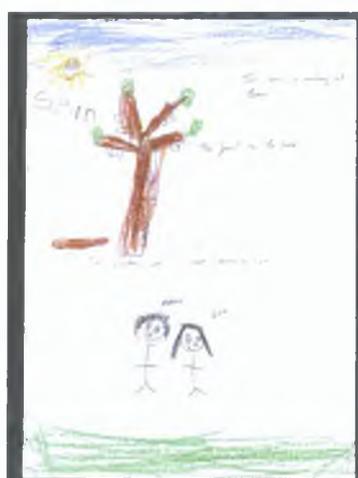
Fig 6.3

Fig 6.4

Fig 6.5

Fig 6.6

Ideas that are central or important to children are usually portrayed as larger than the other features in their drawings. In representing the story of the first people the children emphasise Adam, Eve, the snake or the tree. In figure 6.1 the snake dominates. Adam and Eve do not feature at all and the child has placed herself looking at the garden. In contrast in figure 6.2, the snake is

much reduced in size and Adam and Eve, almost as one being, are content and happy. Figure 6.3 also features a happy Adam and Eve with 'the sun smiling at them'. The origin of people is depicted in figure 6.4 as an evolution of size. People start small and God makes them bigger. Boys and girls were both made as is shown in figure 6.5 and 6.6. Figure 6.6 is in a context familiar to the child. It incorporates a house and a garden and the first person is washing her clothes. In their dialogues and drawings, the children connect the origin of people with the beginning of the earth and moon.

6.2.5 Script Three: Weather

The children open this dialogue by wondering about the nature of clouds, how they are present in the sky and how they stay there. 'Clouds were from the ground and then they came up with the fairies who flied up and they got special stuff to stick them up so they'll stay.' Their explanations for the existence of clouds quickly turn to God and how it was he who placed them where they are. The nature or matter of clouds is suggested as 'candy floss' and 'goo' because, one assumes, of their physical likeness to candy floss. A connection between clouds and their function is made when a child introduces rain with another child viewing clouds as the bouncing places for dead children which in turn causes the air to come to earth. Rain, and particularly rain with storms, is seen as the source of bad dreams. The teacher asks where clouds go when they are no longer visible. God pours rain when it falls, a child contends. Interestingly this child refers to God as 'she', perhaps because she does not distinguish between the pronouns. Alternatively, perhaps she views God as both male and female. However, God is helped by fairies who plant magic seeds for trees to grow and push the clouds up to the sky. Clouds may also be the fuel for the sun to burn. The teacher repeats her question, which for the present is ignored and the children continue in their wondering about the origin of rain with God's shower and his watering-can both featuring. A child deals with the teacher's question, asserting that clouds are in a different part of the world when they are gone. The origin of clouds is re-introduced with the suggestion they are born from storms. God is again referred to as 'she' in this process. God also is responsible for throwing

thunder at earth another child asserts. The subject of the matter from which clouds are made re-emerges, with ice being proposed as the substance. The teacher then wonders why clouds are sometimes black and sometimes grey. More explanations as to how rain falls to earth and how the clouds reach the sky are offered. A child then makes the contribution 'the sky fell down and someone pushed it up'. One wonders if this is influenced by the traditional story of Chicken Licken and chickens' perceived concerns about the sky falling down.

Having offered ideas on the nature and function of clouds, rain and wind, a child begins to make connections between them: 'First it stays dry, then it gets windier and then windier and then the rain comes down'. Another teacher-question inquires as to why clouds have different shapes. This is followed by more contributions on rain falling and clouds staying in the sky and the noise made by rain on window-panes. Some agreements on other children's contributions are expressed and then, almost at the end of the dialogue, a child attempts to bring the connections together into a coherent argument. 'I think that the clouds rain and they have rain drops and when they have raindrops they turn...and they make drops, so when the sun's out they brought along and rain comes down and when raindrops fall, they make the sound of the water. It goes like this; and when they do that sound, the clouds go down, when sun burns it hurts your skin because when its raining it hurts your skin'. It is significant this contribution comes at the end of the dialogue. The child attempts to bring thoughts expressed during the dialogue together and is one of the few attempts at summarising in the dialogues. There are a few more agreements and the dialogue closes with a child declaring 'God got a huge stick and then he made the clouds of candy floss and then he whacked it up.'

6.2.6 Script Four: The Seasons

The dialogue is opened by the teacher wondering how the seasons change and how the leaves fall off the trees. The opening suggestions are God, snow and the wind make the leaves fall off the trees. A child then puts forward a theory 'people before everyone was born done something, so they could change each time in a separate way'. This is an acknowledgment of an order set in place at the beginning of time. In response, another child complains about the speed with which God changes the seasons. The children are very aware of the leaves coming, the summer and the leaves 'staying for a little while' and then the leaves falling off the trees. Astronauts are mentioned twice as being responsible for spraying the skies with colour and changing the seasons. The teacher inquiries as to why it is summer in June and July and winter in November and December. A child views each season as one day in God's time 'he skips another day and then it's another one'. Mother Nature is introduced as being responsible for the rain to be followed by the possibility that the school caretaker, before his death was in charge of changing the weather. Awareness of the changing seasons and the sequence of them is given voice with 'thunder comes, it gets all the houses, when that happens its spring and then winter. I think a fog comes and changes every winter and the sun comes and starts it off and there's dark and thunder'. This shows an acceptance of different weather features for different seasons. The teacher introduces the question of the change in the length of day and night, how sometimes the nights get shorter. This is largely ignored except for one contribution that 'God makes clocks, turn back and forth'. Again a child gives an account of continuous change but it is unclear if this is related to the length of day and night. 'God gets the string and he ties the sun onto it and he brings it back up and brings it back down and gets it off and the sun goes flying up in the sky'. This is followed directly by 'once me and my brother got a swing ball and he wouldn't let me play with it'. This may be a random thought unconnected to the discussion but it is interesting that a swing ball, which could represent the earth's orbit around the sun, is mentioned at this point. It also has the effect of distracting the dialogue into talking about football. The

dialogue ends with a number of children agreeing and disagreeing with contributions made by other children.

6.2.7 Theme Review: Meteorology

The dialogue on weather is dominated by talk on clouds, with the rain, wind and the sun also being included. The matter, function and origin of clouds engage the children's imagination during this discussion. For them, clouds are fuel for the sun; a conclusion similar to that of Xenophanes. They are made from candy-floss or ice and are born from the stars. God is viewed as responsible for making thunder and throwing it down to earth. The children make connections between the cosmic bodies. Their reasoning evolves from wondering about matter and function to connections and processes.

When referring to leaves, trees and the wind the children connect with the dialogue on the seasons. Trees are an obvious manifestation of the changing seasons. The children again refer to God as the cause of seasons but later expand on this with some of them suggesting the cycle was set in place at the beginning. The fog and sun cause the changes and the movement of the clouds may also be responsible. The rotating of day and night is mentioned in this context and is an indication of an awareness of time.

An acceptance that there was a beginning is present in both the meteorology dialogues. In discussing the weather and the seasons, the children again refer to origin as they did in the previous dialogues. This is understood by one child as 'people before everyone was born...' (script 4).

6.2. 8 Children's Pictures: Meteorology

Fig 6.7

Fig 6.8
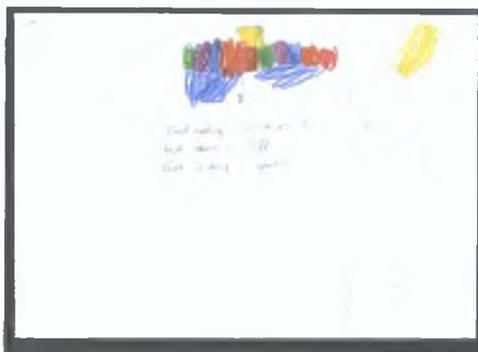
Fig 6.9

Fig 6.10

Fig 6.11

Fig 6.12

Keeping the sky in place is the subject of a number of the children's drawings. Figure 6.7 is typical of their concerns and has a man, Atlas like, holding up the sky. The artist of figure 6.8 has x-ray drawings of suns behind clouds. The image is repeated three times giving the picture three suns suggesting the movement of the sun across the sky. Figure 6.9 features God producing two drops of rain that he is pushing off a flat earth. In figure 6.10 God is again in action and this time he is holding the clouds in place balloon-like, with a string. A machine makes the seasons according to figure 6.11. The page in 6.12 is divided in four to allow representation of the four seasons. This structuring of a page to represent different times is not prevalent in this class of junior infants but is pervasive with the children in senior infants. The children's concerns with keeping the clouds and the cosmic bodies in place, and understanding their movements, is reflected in both their dialogues and their drawings. Explaining origin, beginnings, matter and function dominate junior infants' quest in understanding meteorology. The children combine the role of a deity with some attempts at reasoned thinking to explain.

6.2.9 Script Five: The Origin of Earth

This dialogue opens with the teacher-question of who made the world? The immediate response is 'God'. More detail is added by the suggestion that builders made the houses and God made the rest. This is contradicted by the next child who asserts, 'Jesus made the houses, the man and women, the girls and boys and the planets.' This insinuates a common origin for the universe. A child maintains that Santa made the world. God, Jesus and Santa all have magical or divine powers for these children and they are easily interchanged. The teacher asks what was here before the world was made to which the reply comes 'Joseph and Mary'. This view is supported by another child who claims Joseph is a strong guy. Confusion arises over who this Joseph is, either the father of Jesus or the boy in the next classroom who is called Joseph. An explanation for the origin of earth is put forward with ' World was floated from different planets to here'. The children view giant robots,

Jesus, Holy God, Joseph and Mary and their horses and everyone up in Heaven as contenders for world making.

The teacher asks ' How was the world made?' to which the next child replies 'the world made the world'. Builders are suggested but that idea is later questioned on the grounds they cannot fly. The inherent assumption is one must be able to fly in order to make the world. Blocks are proposed as the matter for making the world. This is further clarified, 'They got special stuff like pieces of stuff that was made before somebody else made it'. The teacher inquires about the nature of this special stuff. 'Gold stuff' is the reply. The children suggest other matter from which the world could have been made including clouds, then clouds and gold. The sun as the source of the world is evoked. A child gives some detail as to how this came about. 'The robots made the sun with their axes and God made the dark away from the planet'. More claims that God, Santa or the angels made the world are proposed. An alternative idea is that there was 'just a planet there before the world was made'. This is elaborated on by the next speaker 'the world was made, the planet was coming off the stars and he won the race'. The parallel arguments of God and other sources for the origin of the world are present throughout this discussion. Again a child claims 'God was there first'. Immediately the next child retorts 'before the world was made, was just air'. A child clarifies this by remarking 'the world was just there and God made the people'. Seaweed and cement are declared as the matter from which the world was made. A new argument is developed by a child's suggestion that fish made the world. This is met with disbelief. The teacher asks what God would have made first and the children's replies include hotels, houses, shops and schools. When the teacher again asks what the world is made from, the children suggest cement, wood, ice, clouds and grass and muck. The dialogue ends.

6.2.10 Script Six: The Cosmos

This dialogue commences with explanations for the movement of the moon. The wind blowing, and the moon going to bed and moving to different countries are all offered as considerations. Observation of the sequence and

inter play between the sun and the moon lead the children to suggest that during day, the moon goes behind the sun and at night, the sun goes behind the moon. God is again given a role in the ordering of this sequence. 'When it's night-time God moves the sun down and brings the moon up and in the day-time he brings the sun up and the moon down'. The possibility that the moon is the sun without rays and with its light turned off is proposed. Aliens are responsible for the lighting of space and the elements of the sky. Immediately after the claim that aliens have a huge light in the sky, a child asserts 'when it's sunny in B------, the sun goes to another country and then when the sun, when the day-time is over, when the sun goes down the light from the sun goes to the moon'. It is difficult to know if this particular child was referring to the reflection of the sun to give the moon-light. Several children argue that the moon and the sun are one. 'The sun is the moon and the moon is the sun and when its morning it lights up and when its dark it stays bright'. For some, aliens take over the role of changing the sun and moon according to daytime and night -time. The gradual process of the perceived movement of the sun is explained in this contribution: 'at night-time the sun comes up after the morning and then it comes up in the afternoon, then sun goes up to the evening, then it goes up to the darkness and then it sees the moon and it goes by the moon and then it goes right round'. Shortly after this a child wonders aloud how the moon goes away. The teacher then introduces the planets and asks for possible reasons for their existence. Apart from one comment that the planets were made because there was space, the children return to their quest to understand the moon and the sun. There is a consistent argument by some children that the sun and the moon are one thing in different guises. A child explains that it is called the sun with the 'prickles' but when the 'prickles' or 'the lines that make the sun bright' are removed it is called the moon. Another child also attempts to connect the light from the sun as the source of the light for the moon and the stars. Landing on the moon by people is also put forward as an explanation for the moon's movement. The teacher asks the children if they would like to go to the moon and what might they expect to find there.

One child would like to go and to visit an undiscovered place and another would expect to find aliens. Some interesting observations conclude this dialogue including the suggestion that clouds are the same as the stars, the world goes around to the moon and the sun, dogs are afraid of the moon and there is a candle inside the sun.

6.2.11 Theme Review: Cosmology

A higher power made the earth according to the children and for them this is the Christian God. As the dialogue opens up, the children think of alternative possibilities such as the earth floated into place, there was just air present before it, another unnamed planet was there and the sun is the source of the earth. Clouds, gold, special stuff, blocks, seaweed, cement, grass and muck are all named as the original substance for making earth and before the presence of earth there was just air. The use of the term 'special stuff' implies recognition of what needs to be explained or what the natural philosophers referred to as *principium*.

The moon dominates the dialogue on the cosmos. The children wonder about its movement and its connections to the sun and earth. The wind is named as the cause of the moon's movement. Throughout the children are very aware of the sequencing of the moon and the sun and wonder if they can be the same thing in a different form. One child declares that the world moves to the sun and the moon. Reference is made to the effect of the moon on other creatures. The idea of the earth 'floating' (script 5), recalls Thales' notion of how the earth is held in place. Naming an original substance, a major concern of the Ionian philosophers, is also of concern to these children. The contribution 'they got special stuff like pieces of stuff that was made before somebody else made it' (script 6), is an unsophisticated response to the same fundamental question that Xenophanes responded to by claiming a limitless and indefinable original matter. Another child's suggestion of air being present before the existence of Earth brings Anaximenes' work to mind.

6.2.12 Children's Pictures: The Cosmos

Fig 6.13

Fig 6.14

Fig 6.15

Fig 6.16

Fig 6.17

Fig 6.18

In keeping with some of the concepts in the dialogues that have the earth constructed as an art project, so in figure 6.13 the earth is being created by Mary. Presumably Mary, Joseph and the baby Jesus are the people depicted in the picture. The earth is like a cake being baked, with Mary adding the ingredients. The sun dominates in figure 6.14, with the dark crescent probably representing the moon. Spacemen are floating about on 'nothing'. Figure 6.15 relates directly to the dialogue as a child claimed God made the world but forgot to make China and had to return to finish off his work. Figure 6.16 again portrays the construction of the world, only on this occasion, the child himself and his friend are involved in the construction. Figure 6.17 is a view of the cosmos which deals with the question of how the sun stays in place. This is solved by having, 'a thing that holds down the sun'. Figure 6.18 portrays a great deal of activity with planets, flying robots, a sun, a ghost and a ladder reaching up to the sky. The ladder appears to be bursting through the top of the universe.

The children in both dialogues and drawings combine religious with scientific understanding. These converge when they seek to explain the substance of the cosmos, its features and its continuous existence and function. The different thinking approaches do not appear to cause a conflict for the children. They are comfortable and accepting of both religious and scientific explanations.

6.2.13 Script Seven: What is Truth and What are Lies?

Discussion opens with the children engaging with the story of the boy who cried wolf and they give examples of a Dad telling a child to stay put and if the child moves and changes the channel on the TV the Dad would know when he returns. The implications of this for the children would be 'big trouble'. A child then retells the story of the wolf putting himself in the role of the boy, telling his Mam a wolf was coming. Other examples offered were of a brother denying he broke a hair-band and a sister accusing the wrong person and a mother telling a lie by suggesting a tree had fallen down when it had not done

so. A child picks up on the tree idea claiming 'he will make a lie' and people will chase him. This is followed by a judgement that it is not fair. Lying about a lie is viewed as being very bold. This for the children exacerbates the situation. Having given examples, through judgements and reflective processes, the children turn the narrative into a more abstract conversation. In seeking to understand, one child says ' truth is good and you have to tell the truth because then you are good'. Further clarification follows with 'I think truth is doing things a good way'. This abstraction is built upon the preceding shared examples. More examples are offered and the dialogue turns again with a child offering the critical reflection 'that sometimes it may be the truth'. What may be assumed is a lie could in fact be a truth. The teacher wonders if there could be any circumstances in which it would be acceptable to tell a lie. A further definition is attempted 'a lie is a bad thing and a truth is a good thing'. Another example is given with the clarification 'that's how you know [what] truth and lies are'.

Some children display an awareness that one can move between the binary opposites of truth and lies. More examples using sweets and toys are cited, connections with the story *Jack and the Beanstalk* are made, the possible consequences of lying are named and then a child returns to the original story. Questions regarding the similarities and differences between wishing and lying are raised, more analogies using a cat and fox rather than a wolf are offered and then a child returns again to the original story and attempts a summary. 'I think in the book you just read, it was a lie and other lies if you tell a lie, and then next time when its really the truth and you say it then the people don't come'.

The dialogue starts to drift off the subject and the teacher brings the discussion to a close.

6.2.14 Script Eight: Good and Evil

A child opens the dialogue with, 'I think when the people are good, they do things a good way'. The characteristics of evil are defined as 'mean'. 'Bad guys' are associated with drugs, witchcraft and inventing machines to kill people. A genetic connection is given as a possibility to explain this evil. 'The witch was bad because the mother was bad'. The teacher asks if it is possible to be evil and good at the same time. One child thinks it is while others hold strongly to the binary opposites, having mean people coming out of the ground and good people coming from the sky. So not only are they opposite in character, they are from physically opposite worlds. Several children maintain that good and bad people fight each other. This is followed through by the assertion that the night belongs to the bad and the day to the good. 'Baddies are in the world at night-time and they put badness into good people and they steal the good'. The teacher suggests that people are born with little bits of good and bad in them and she wonders how this might happen. However, the majority of children view the issue as one against the other. 'Evil [is] under the ground and good stayed there and good fights with evil'. One child acknowledges the presence of good and evil in people but immediately reverts to how the good fight the evil and the good win. Evil is associated with witches and a child claims 'the witches aren't real but the good people are'. Bad people sneak up and jump out at others and they come out of graves whereas good people come out of heaven. God's evil twin is introduced into the discussion. He is responsible for putting evil into people. The teacher inquires if flowers and trees and butterflies can be good and bad as well. More examples are given and then the children become involved in discussing good and evil as pre-determined traits. 'When the bad people are born they turn into evil people and when they're good they might stay good but I don't know if that would ever happen'. There is a sense of doubt present in this contribution but this is not always the case. For some there is no such ambiguity. 'Some people are born and some people are still bad when they're born and they grow up and be bad'. The conversation then turns to dinosaurs and the declaration 'dinosaurs are bad because at the daytime they didn't like the sun because it hurt their eyes', the implication being if they disliked

daytime by rejecting light, they were not part of the good and therefore must be part of the bad. It relates to an earlier contribution claiming good people come out during the day and bad people at night. After a few more general comments on dinosaurs the dialogue closes.

6.2.15 Theme Review: Ethics

The children are very aware of the concepts of truth and lies and the distinction between them. They seem to have some understanding of the discrepancy between doing a lie and telling a lie. They relate their understanding to their own lives and to stories they know. Truth is associated with goodness and lies with badness. The acceptance that one can be both good and bad is a sign that some children are beginning to negotiate within these binary opposite.

Binary opposites dominate the ethical dialogues. How good and evil can be recognised is tied to their origin, from where they emerge. For the children evil comes from below the earth's surface and good from the sky. The image of these opposing forces is carried through to day and night and light and dark. God's evil twin is a personification of evil. The children are consistent in their use of binary opposites to convey their sense of the difference. Within their theory the characteristics of good and evil are stated as being pre-determined or genetic. There is a very slight acknowledgment of compromise between the forces but in general fate appears to dominate. Mythic thinking and understanding dominates the discussions on the ethical matters. Good and truth are viewed as strong, almost always pre-determined characteristics, and evil and lies their enemy. There are signs of some children beginning to differentiate between the binary opposites. In chapter six there will be further reflection on how some of the chosen topics lend themselves more to philosophical thought than others as for example the ethical subjects as they demand more ability in abstract thinking.

6.2.16Children's Pictures: Ethics

Fig 6.19   Fig 6.20

In the ethical dialogues the children in junior infants stay largely within the binary opposites of the concepts of good, evil and truth. They give lots of examples to explain meaning and they talk of the consequence of action. However, the children do not reach beyond the initial interpretation of the concepts in their dialogues or in their drawings. The discussions on the themes of origin, meteorology and cosmology combine mythical and rational thinking. They are the source of further ideas for the children and this is reflected in more symbolic and detailed drawings. The children's pictures on the ethical themes are in the majority less complex and un-engaging. Many of them depict two stick-figured people with one being cross and the other not. However, two children do display more concentrated effort as is shown in 6.19 and 6.20. The consequence of lies is dramatically signalled in 6.19 with tears dominating. Even the clouds have tear-drops hanging from them. Lies cause upset not only to the individuals concerned but to the elements and maybe indeed to the universe. Figure 6.20 features the revenge of the sheep from the story *The Boy Who Cried Wolf*. Stones are in place to trip the wolf up. The child has taken the story further by intervening to prevent the wolf reaching the sheep. The wolf representing danger and evil has to be stopped.

6.2.17 Junior Infants: Summary

In discussing the eight topics, the children in junior infants reveal their degree of understanding of the concepts of origin, meteorology, cosmology and ethical matters. They wonder about the original matter of the earth and the origin of people. In so doing, the children make connections between matter and function. They perceive cosmic bodies as related and they refer to both symbiotic and universal connections. Air, water and 'special stuff' are named as being present before the existence of earth. It is also proposed that earth is floating on water. Similarities are evident with the subject matter of the natural philosophers and indeed similar conclusions reached. The children are very aware of change, of time and in their dialogues search for a pattern to understand. They talk of the sequence of day and night and the seasons and wonder if this was all set in place at the beginning of existence. They are quite fascinated by the moon and it features in a number of the dialogues. The moon's own existence, its relationship to the sun and its influence on earth are all mused upon. The concept of naming features to initiate them into reality found in the Oceania myth is emulated in one child's concept of earth as another unnamed planet until bodies and features were placed upon it. The children also adhere to devolutionary thinking in their understanding of the first people. People started out as good and became bad. The children evoke the Garden of Eden as a Utopia. This is in keeping with their Christian understanding of people. God is a prevailing authoritative force in the children's thinking and they always evoke his divine powers before continuing to examine other possibilities. He is present in the majority of the scripts.

On ethical issues the children display a strong mythical approach. Binary opposites govern their concepts of good and evil, truth and lies. They elaborate their understanding but always within the parallel worlds of truth /lies, day/night, light/darkness and below/above the earth. They adhere to two almost opposite existences even introducing 'God's Evil twin'. In keeping with the myths, the children view this state of being as pre-determined. They do not mention the word 'fate' but the concept of it is ever present in their understanding of ethical matters.

There is a broad range of individual expression in the drawings of the children in junior infants. The children pick up on themes and complement ideas and concepts present in the dialogues. One item that is common to many of the pictures is the sun. Ronda Kellog (1969) refers to this as a 'mandala' as she found this presence of the sun to be a feature of children's pictures throughout the world. The concepts present in the drawings are reflective of the contributions in the dialogues and combine both mythic and rational expression. It is note -worthy that the more abstract topics dealing with the ethical issues give rise to a substantial level of mythic thinking. While there are levels of abstraction, it may be that the children utilise a mythic process to grasp the very abstract subjects.

In abstracting the stories from the dialogues it is clear that this class of junior infants can engage in and sustain a philosophical conversation even if it is of a rudimentary kind. Through examples and explanations they collectively search to understand. There is a consistent pattern of searching for order, sequence and causality. The children examine the issues by giving examples and in some cases they attempt to generalise, reflect on the consequences and implications and make connections between ideas. There is a sense of shared wondering. The children happily lose themselves in the arguments. This is significant to understanding the dialogues as philosophical conversations for which there are no set agendas. Rather, there is an-openness to following the conversations in whatever direction they may lead. Observation is one of the main bases the children use to support their arguments. Examples from experiences are the evidence used to validate thoughts. In general the dialogues of the junior infants deal with how things are and the purpose and consequence of this existence.

This is how this class of junior infants perceived and discussed the chosen topics.

6.3 Senior Infants

6.3.1 Script 9: Adam and Eve

The teacher introduces this topic by asking the children where Adam and Eve lived. They describe what they refer to as 'God's garden' or 'the garden of Eden'. Initially the children are quite critical of Adam and Eve as 'they knew where they were and they shouldn't eat anything off the good and evil tree'. They know the story is from the Bible. Twice during the dialogue the children associate this story with the Irish story of St. Patrick who is alleged to have driven snakes out of Ireland and presumably this is the connection. 'When the snake came along, God made Saint Patrick'. The children give details of how they envisage this garden. It had loads of trees, a river for ponds for fish to swim, animals, a waterfall, a mountain and lovely flowers. Indeed it seems to be a replica of earth. Punishment and reward are viewed as God's means of control. 'When they stopped doing all the bad things, God made the fruit more healthier'. Adam and Eve are responsible for their own misfortune, 'they didn't listen to God'. However, after this a turning point comes when a child professes a critical reflection 'maybe he made the garden wrong. He shouldn't have made the tree'. Others defend God as there is no evidence it was God who made the tree, 'a snake might have made the tree and God knew that he mightn't have been able to chop it down so he left it'. The majority of the contributions following this are critical of God for making the tree and the snake. There is a sense that God was setting 'traps'. 'He made it for no reason, he shouldn't have'. For the children there was no real purpose for the existence of a forbidden tree with forbidden fruit. The teacher wonders if Adam and Eve were lonely after they had been banished from the garden. Apart from the opinion that 'they were lonely a little bit because God sent them away', all of the other contributions except one indicate that Adam and Eve had lots to occupy them, fishing, riding and they had each other and they still had God. As one child puts it 'no cos maybe the animals were psychic and they could put ears to Adam and Eve and they could talk to them.'

6.3.2 Script 10 : The Origin of People

The children begin by identifying the original matter of people. Seeds and bones and meat and mothers are all mentioned. 'God made seeds first and they were the people and then some birds came along and put it into mammies' tummies'. Emotional reasons are also cited. God was lonely and 'God was bored with Mary he just wanted to make people'. Science is very present in this dialogue and one child supports some of Darwin's theory, 'animals evolved into people'. Their teacher enquires as to when people may have come on earth. Suggestions include one million years ago and ten years after the dinosaurs. The children introduce their own understanding of the history of earth. There were dinosaurs, a big volcano, then cavemen and then people. Some seem to distinguish between cavemen and present day humans. For the children the first people led very similar lives to their own. They played, went to bed at night, looked for food, ate breakfast and lunch and 'cavemen spent most of their time in caves drawing pictures of what they were going to kill on the walls'. Gender roles were also clearly defined as children played and the mothers cooked. The children then describe more detail of this lifestyle. The people had mud huts and when it was sunny the mud dried. They made 'stuff' with their hands and used sharpened stones and 'made screw drivers [and] used some sticky stuff to stick them together'. Evidence from film is offered as to how these people made fire by rubbing stones together. Weapons were also made out of rocks and sticks. However, the children would not opt for such a lifestyle because they had 'rotten clothes', and they did not have big houses or proper beds. Lack of light and fear of sabre - toothed tigers are also offered as reasons for not wanting to live at such a time. A child distances herself from these first people to end the dialogue as follows: 'I wouldn't like to live there because they were very weird'.

6.3.3 Theme Review: Origin

In the Adam and Eve dialogue the children begin with a clear view of the wrong committed by Adam and Eve but as the dialogue evolves, they become more critical of the temptation or the 'trap' placed by God. They remain firmly within the confines of the story. They take a literal interpretation of the snake and make the cultural association with Saint Patrick, the patron saint of Ireland. The children have a detailed image of the garden where Adam and Eve lived and it is thought to have contained the best of nature's beauty. Having been critical of the 'forbidden tree' in the Bible story, they do not view the consequences of the 'fall' of Adam and Eve as harsh at all. Indeed for them, Adam and Eve lived a full and contented life beyond the Garden of Eden.

The children approach the topic of the first people with both a practical perspective and some level of scientific understanding. Scientific thinking demands a systematic rigour and has a knowledge base. The children make no connection to the story of Adam and Eve. Although God is mentioned, he does not dominate the dialogue. The children's awareness of the sequence of evolution and the history of the earth is present. It is interesting to record a child in senior infants use the word 'evolved' in this context. They perceive an order to evolution with dinosaurs, cavemen and then people. They concern themselves with the matter or substance of people and declare this to be meat and bones. The detail of life before present humans holds their interest. They both identify with and distance themselves from the first people.

In their engagements with the theme of the origin of people, the children in senior infants are both positive and accepting. They do not view the Bible story of the Garden of Eden as part of the human downfall or demise. Some accept an evolutionary view of the existence of people and in neither dialogue do they judge the state of being human as being a positive or a negative. Being human carries no burden for them.

6.3.4 Children's Pictures: Origin
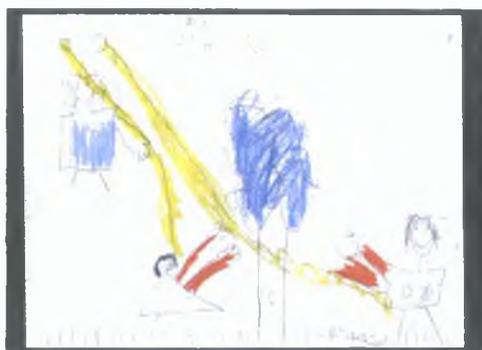
Fig 6.21

Fig 6.22

Fig 6.23

Fig 6.24

The power of God is dramatically portrayed in figure 6.21. God's revenge on Adam and Eve is laser-like charging at them from the heavens. The snake is small and hiding in the grass. Eve is depicted as larger and more dominant than Adam and, by implication, more responsible for their downfall. Figure 6.22 illustrates two different time zones. In the foreground is the portrayal of happiness in the Garden of Eden. The tree is central and large as the agent of Adam and Eve's future. The snake is very small and enters from the left of the picture. The tree is the cause of what happens next and is depicted in the top corner of the drawing. Adam and Eve are much reduced in size and are locked away behind bars. Alternatively it could be a good and bad angel waiting to fight. If the latter is the explanation, it then represents an abstraction of the theme.

Again in figure 6.23 Eve is the dominant person and by standing on a stool is almost twice as tall as Adam. Figure 6.24 demonstrates just how tempting the forbidden fruit was. There is an angel present with wings made in a heart shape. This symbol is also on her stomach and sleeves. It is possibly an angel of love in opposition to the snake at the bottom of the tree. The large fence with the heart-shaped lock may be the way to Heaven or to the Garden of Eden.

6.3.5 Script 11 Weather

The original matter of the moon opens this dialogue. 'I think the moon was an egg that grew and grew'. Another child makes the observation 'I think there wasn't any shores there wouldn't be a flood'. The teacher asks about the nature of clouds and the children respond with both imaginative and scientific explanations. Mixed up paint with fluffy stuff, little tops painted blue and white, steam, cold air, big puddle of water, gas-lines, fog and balls of water are all suggested as the matter for clouds. They are said to fade away, disappear or go to other countries. One child suggests they hide behind the sun but when it moves it becomes too hot for the clouds. The wind is viewed as responsible for their movement as is God's hand or little ghosts that died. A simile is evoked ' I think clouds move like a butterfly and snail because they move very slowly'. The teacher wonders why the clouds have different shapes. 'They join together, they go through each other' is one explanation while others use imaginative ideas for what they see in the shape of the clouds. These include, dragons, spiders, bunny rabbits, pokeman, fish, a train and people. There is the assertion that God draws people in the clouds. Another child expands on this idea with 'I think God gets markers and draws clouds and sun every morning and he draws it better and better, that's how it gets hotter and colder'. In the middle of these images in the clouds comes a scientific assertion 'only in big hills and mountains there can be only a fog, clouds go low down'. Gravity is also mentioned. Thunder and lightning are described as both dangerous and very loud. The children contend it could damage your eyes and cause blindness. Some find it makes them feel cosy in bed and others assert 'lightning is thunder because there is no gravity in the clouds'. Thunder

is a consequence of God's fist or God throwing thunder down to earth. One of the possible reasons for this is 'to annoy the devil'. The dialogue ends with discussion on the devil.

6.3.6 Script 12: Seasons

The teacher begins this dialogue by asking the children how the birds know when to start building their nests. God is initially evoked, quickly followed by the weather getting hotter, flowers appearing and by the leaves changing. The teacher wonders how would the leaves tell them. The swinging of the branches is suggested as one means of communication. God is again viewed as the source of information. One child suggests Mother Nature is responsible while another claims it is the weather. This is refuted 'maybe nobody tells the leaves. When they got old, they just go brown'. This rejection of a higher power and the acceptance of an autonomous process lead the dialogue onto why the seasons change. A season for baby animals to be born is mooted and 'Mother Nature is one of God's friends. They help each other to make other weather and animals to grow'. A child then introduces a critical reflection with the suggestion that people are annoyed with God always changing the weather. Others give reasons for his behaviour; he does not feel sufficiently comfortable with one season, he wants four different times to the year, after he had thought of the present seasons he just stopped, a season for cold and warmth, a season for baby animals to be born and indeed 'because he wants to'. The teacher asks the children if they think God is pleased with himself. The children assume 'God thinks he made a great job'. His reason for introducing the seasons is possible boredom and others suggest the seasons are a result of God experimenting and getting it wrong and he 'just kept going wrong'. The need for a balance between hot and cold is perceived as a motivating factor as is the desire to have four seasons. The dialogue then returns to birds and their ability to know the time through their senses. A child develops a theory based on their distinctive features. 'I think its their bodies and they make nests. They can fly and they have a different body, a different body makes a different language, different body makes a difference'. The teacher enquires if birds have a language. 'Birds have a language and we

have a language because we are all different' affirms one child. A number of the children think they do but with some differentiating: 'I think they do have a language but they don't use it' and another child claiming, 'it's just imagination'. When the teacher pursues the issue further by asking if trees have a language, the general response from the children is that they do not because 'they stay still'. This is further generalised 'I think trees don't have language stuff like plants and tables and stuff don't have language'. A child observes 'some things have language because some things have electricity to make them talk'. The children develop the argument by distinguishing between living things and non-living things. 'Cats and dogs can talk'. Having a purpose or a need to talk is seen as a criterion for having a language. 'Birds don't need the trees to talk because they can feel the fresh air themselves so they know' and 'Somebody made tables and stuff, not made to talk, just made'.

Then the teacher challenges the children with the question 'if you had a chance to make one more season, what would you call it?' The children become enthusiastic about this imaginative possibility. They suggest loads and loads of rainbows, all the fruits falling down, wind, and a season with thunder and lightning all the time. One child interjects 'I'd be afraid to go to your place because I'd be afraid apples would fall on my head'. This changes the seasons into places, with the children proposing a land full of sweets and a land where everything is free until a child asks a critical question 'Can't have a new season because what months would be in it'? There is no response from the children to this question and they finish the dialogue by describing weather features for their possible seasons.

6.3.7 Theme Review: Meteorology

Clouds dominate the children's discussion on the weather. They discuss the possible origin and matter of the clouds and they make connections with the wind, sun, clouds rain and fog. However, the arguments do not develop to any great depth. Some attempts at scientific understandings are present. Gravity,

fog being clouds and the sun drying up the rain are present but the dialogue is dominated by a playfulness of reporting images in the clouds. God as a higher power and the mythic thinking of thunder being a source for fighting evil are also present.

The children are aware of the physical manifestations of seasonal changes such as the leaves changing colour and falling off the trees. Only one voice conceives this as an autonomous process. The children accept a deity or higher power as the source for the seasons. They are aware of the need for balance between hot and cold and a time of each year being allocated for different purposes. Different ways of knowing are recognised and when the children discuss language, they relate it to function. Those who need a language have a language. The children also make some attempt at defining living and non-living things.

A feature of the senior infants' dialogues on meteorology is their attention to detail and their awareness of the weather. The children's consciousness of change almost reads as though they are continually observing a film and wondering what will happen next. They are very aware of the meteorological backdrop of their lives.

6.3.8 Children's Pictures: Meteorology

Fig 6.25

Fig 6.26

Fig 6.27

Fig 6.28

Thunder and lightning are a forceful presence in figure 6.25. There is a sense of energy from the picture. The figure at the top of the drawing in the clouds is most likely to be God. The people below are small and barely present. As well as representing the power of thunder and lightning, this picture also depicts the power of God for this child. Figure 6.26 has a much calmer atmosphere and relates to the dialogue when the children discussed the shapes they can see in the clouds. Figure 6.27 also has figures in the clouds and God floating along making weather as he goes. This picture conveys a sense of organisation, as though somewhere there is a grand order. Figure 6.28 reveals a season of fruit. The sun is portrayed as being delighted and in festive mood.

6.3.9 Script 13: The Origin of Earth

Reasons as to why God made the world begin this dialogue. The children are utterly accepting of God as the creator, which is in keeping with their religious belief. They give the purpose of this creation as: for humans to be born, for special people, for dinosaurs and to keep people safe. When asked by their teacher how he made it, the children look for an original matter. They suggest seeds, magic and superpowers. He is said to have made sea from spit and that builders were made first and then they in turn made the earth. The children then move onto the detail with the planting of trees for people to pick apples. This may be connected to the story of Adam and Eve with the specific mention of apples. How this process was undertaken is described in art

lesson terms. 'He just made a cardboard tree up in the clouds and then he made it'. The creation of earth is returned to again but this time, emotional motivation features are cited. It is suggested that he didn't want people to die. He wanted people to have fun, and he wanted friends because he was lonely. Aesthetic possibilities are also present. He wished to decorate the world, 'for ducks to have water' and 'God planted trees so he'd have something bigger than flowers and grass'. Societal possibilities are also present 'so the presidents could make all the rules and make schools for people to learn in'. The teacher enquires as to how the world was made. It probably took a very long time, one child suggests, and another thinks 'he probably got the idea of the moon and then he made the earth'. Some think he had to have tools 'he couldn't make it without tools'. The conversation evolves into the connection with the cosmic. 'He had an idea of making the sun and the moon and then the eclipse and everything'. The moon is then given a significant role in the process: 'the moon was probably able to talk and tell God'. Hammers and a piece of iron are named as the tools used by God. The how and the why of the making of earth are intertwined, with some children suggesting God made the earth so that children would learn and another adds detail to this 'so they could learn and do takeaways'.

A counter-argument is proposed at this point; 'no-one was there, it was empty, it was very quiet'. This concept of the origin is very different to those preceding it. Some other children take up the idea with 'nothing, just space...' but then resort to God again. Reference is made to a world without features 'a big lump of muck' and for some it is located in ancient Egypt and there were no houses 'only ground'. A child suggests 'after the world was empty, then came volcanoes and then dinosaurs'. Another makes a connection between the dinosaurs and the people with the idea of dinosaurs' shins being used to make humans. Similar ideas are played with and very near the end of the dialogue a child concludes 'God let us live here because he didn't want us to walk around on nothing'.

6.3.10 Script 14: The Cosmos

The children begin by associating the sun and the moon. 'I think the sun hatches an egg and the sun hides behind the moon'. This concept of the moon being 'hatched' by the sun or an egg being the origin is one found in myths (p.55). In their explanations of the cosmos, this class of senior infants combines science and imagination very comfortably. A child claims the earth moves around the sun while the sun stays still. The children wonder about the order of movement of the cosmic bodies. They associate the sun and moon with light and dark. The matter of the sun is speculated upon. Some claim it is 'a big massive ball and then they put fire in it'. 'The sun is like a little light bulb but it's not'. This is followed by the declaration 'the sun is really a big star'. The children reflect on the purpose of the sun with some suggesting it lights up so that people can see. Others give curiosity as a motivation for the making of the sun. 'I think some men stay on the moon, footprints make the sun come'.

Scientific thinking permeates this dialogue. The moon is declared to be 'two hundred tons of rock'. After further speculation as to the matter and purpose of the sun and moon, a child declares 'I don't think God put the sun or moon there, it just grew and grew and grew'. Another reflects on how it seems at times as though the moon is following a person. The discussion then moves to the planets and the children speculate as to whether they are hot or cold. Their existence is thought by some to be merely decorative or because earth was too crowded, they fill up some of the vast space in the cosmos. The concept of cosmic bodies beginning from a seed is again mooted. Others return to a deity 'God made planets to make hot and cold'. They are, in this case, the manifestation of the concepts hot and cold and maybe we would not understand the concept without them. The children acknowledge the need for a telescope to see the planets. Earth is declared as a planet, and one child claims the earth does not move, only the moon. The children weigh up the pros and cons of visiting the moon, some expressing concern about slipping off and floating away, having to wear a jumper and jacket because it would be cold, fear of falling down one of the holes, the

feeling of flying because of lack of gravity and the desire to meet the man in the moon.

The matter and shape of the stars are speculated upon. The moon is brighter than the stars according to some of the children while others claim 'they're really big and really far away'. Another child adds detail to this. 'The stars are just big balls of gas burning a million miles away. It's sort of good to go to Mars. Might be sand storms, might fall off'. This is supported by another child distinguishing between the stars and the sun 'the stars are really bigger then the sun or moon just further away'. The dialogue ends with other children declaring there are tiny light bulbs in the stars, there's a man in the stars and possibly a Pokeman, a television character, living on the moon.

6.3.11 Theme Review: Cosmology

A deity, God, dominates the dialogue on the topic of earth. The children's thinking encompasses the conflicting ideas of both a concrete and mythical understanding of the beginning of earth. Like the children in junior infants, they speak of it as an art project and refer to particular tools for the construction. They do make connection to the cosmos. As the dialogue develops, alternative thinking appears with the abstract concept of nothing being mooted. Silence is associated with this nothingness. Some of the children appear to interpret this idea of space as a blank canvas while others perceive it as a void.

The children are very comfortable combining imaginative speculation with scientific facts. There is a continuous presence of scientific fact flowing through this dialogue. The children speculate on the movement of the cosmic bodies and the connections between them. They wonder about their origin and reason for existence. They search for an order and relate it to the earth and the earth's moon. There are many ideas and images in the dialogues on the cosmos. How the features of the cosmos came to be and their purpose permeate all of the discussions.

6.3.12 Children's Pictures: The Cosmos

Fig 6.29

Fig 6.30

Fig 6.31

Fig 6.32

Fig 6.33

Fig 6.34

There is a strong sense of space conveyed in figure 6.29. The earth is depicted in the centre of the picture but small in comparison to the surrounding darkness and light. There are some other cosmic features, possibly the moon and the sun present also. Day and night is evenly divided by delineation of the darkness of night and the blue sky of the day. Alternatively the darkness could represent the endlessness of space. In the dialogues the children speak of the world being constructed and they wonder what tools God would have used. In figure 6.30 God is represented as a workman. He has constructed the earth in two halves and now has to put them together. Again figure 6.31 is concerned with the process of making the earth and represents this by having 'before' and 'after' frames. Figures 6.32 and 6.33 convey a sense of awareness of the universe and other bodies in it. However, in both Earth is dominant. Alternatively figure 6.34 shows a strong colourful sun with smaller features floating in the darkness.

6.3.13 Script 15: Truth and Lies

The True Story of the Wolf and the Three Little Pigs

To introduce this topic the children's teacher read the wolf's version of the traditional story, *The Three Little Pigs,* to them. They begin by reflecting on the story, with some children supporting the wolf and some adhering to the original story with its inherent understanding of pigs being good and wolves being bad. Alternative reasons for eating the pigs are proposed and evidence given for his actions. 'You could see he hadn't any sugar'. This is supported by 'I think the wolf was good 'cos he asked for the sugar and he didn't steal it'. His intentions are therefore judged as honourable. Others claim the wolf could have bought sugar in the shop but this is countered by the suggestion 'but he still could've put a bag of sugar on the window'. The teacher wonders if bold people tell lies because they do not want to get into trouble. The children quickly interject to differentiate this claim. 'Not just bold people tell lies sometimes good people tell lies'. Another child adds to the argument by generalising the concept 'I think every kind of people tell lies'. The children offer various levels of differentiation within the argument. Lies and truth are associated with goodness and boldness but it is not a simple distinction 'bold

people but there's some goodness in bold people'. More examples involving teenagers are offered. Definitions are attempted as teenagers can still be good because they 'never rob stuff from banks'. A critical moment in the dialogue occurs as a child suggests that teenagers could still be good even if they did rob banks, provided they gave the money to the poor. Intention and motivation are thus introduced. More examples are put forward and consequences examined and there is a definition of a lie. 'You have to use words for telling a lie 'cos if you don't use them you won't be telling a lie'. This definition supports the suggestion of judging an action on words rather than deed. Later this claim is counteracted and qualified. 'There is a way of telling a lie without speaking. If you have nice manners just tell them and you won't get into trouble'. Consequences such as being grounded are evoked as outcomes before a child returns the dialogue to mythical thinking. 'If you tell a lie and God gets upset and cries and makes rain come down'. With a few more statements of agreement and disagreement the discussion ends.

6.3.14 Script 16 : Good and Evil

This dialogue is opened by a child declaring, 'Good is a good thing like you do something'. Action is associated with goodness. Examples are offered and the gardai, the Irish police, are viewed as good people, presumably because they implement the law. Murder and guns are regarded as the opposite and associated with evil. A child introduces the concept of 'a good devil' who brings Hallowe'en, an autumn festival originating in pagan times. Another child takes up this idea 'I agree with Luke because the good devil is good and the bad devil is evil'. The concept of a devil catches the children's imaginations and tends to dominate the dialogue. However, one contribution hints at the need for bad in order to understand goodness. 'If bad people weren't made the good people wouldn't be made'. It is as though one cannot exist without the other. The differentiation between 'being smart' and being 'bad' is made. 'Being smart' in this context refers to showing off or playing at being clever. The consequences of behaving badly are punishment and going to hell. The children then become very involved in discussing whether devils really exist or not. They are very definite in their views, some dismissing any

existence of devils with the declaration 'there's definitely no devils'. This is further enforced by the asserting that 'they just go up to Heaven and they have to be slaves'. Another child suggests that bad people go to Heaven and then get killed there. The dialogue then expands to refer to witches, vampires and details of what possible devils might look like. This involves, horns and 'big forks' and a child wonders 'I don't know what the devil's face looks like'. Another child points out that they do know 'because of TV, there's ads'. Evidence for the non-existence of a devil comes, 'once when I was three, my brother told a lie, the devil didn't come'. A cynical voice near the end contends 'nothing does happen to bad guys when they die. They just go up to Heaven'.

6.3.15 Theme Review: Ethics

The children start with the story of *The Three Little Pigs* and quickly move the argument on truth into the abstract. They do not accept a binary opposite understanding of the concept of truth and lies and spend the majority of the dialogue negotiating and clarifying the differentiations within the concept. Attempts at definition are also present. The difference between intention and action is seen as significant by some of the children. They attempt to distinguish and generalise. There is a real sense of the children negotiating meaning in this dialogue.

The dialogue on the topic of good and evil centres on the idea of a devil. It is a very lively discussion with a great deal of interaction between the children. One gets a sense of the looming dark figure representing evil that the children are both fascinated by and frightened of. They have a lot to say on the topic and although they do give examples from everyday life, the discussion has mythic proportions. Evil manifests in the form of a devil. The children examine motivation and consequences and make some differentiation between goodness and evil.

The ethical issues stimulate very lively discussions among the children. They engage with the topics and with each other's ideas and display a greater competency in dealing with the more abstract topics than the children in junior

infants. There is a dramatic presence in the dialogue on goodness and a sense of fairness and equity in the discussion on truth. Certainly the children do not view the telling of lies as something related to being a child but rather to being human.

6.3.16 Children's Pictures: Ethics

Fig 6.35

Fig 6.36

Fig 6.37

Fig 6.38

The picture figure 6.12 (p.159) is unique as it is the only attempt by a child in junior infants to organise and represent time by delineating the page. This is a common feature of the drawings from the children in senior infants. Order, structure and differentiation are more present in their pictures. In figure 6.35 this structure of time and sequence is assisted by numbering the pictures and giving directional arrows to follow the order. A person is put in jail and in the third picture we see him/her languishing, head bowed while the free or presumably good person is free to go to the park and play. Differentiation is again helped with numbers in figure 6.36. The ages of people are given with the eldest reaching one hundred and eleven. There is an explanation given

'people of all ages tell lies'. The message appears to be that even if one lives to be one hundred and eleven, it is still possible to tell lies. A very happy, colourful devil is depicted in 6.37 with a speech bubble saying 'na,na, na,na'. This phrase is used by children to annoy or tease others. The details of a prison cell with bars are the subject of figure 6.38. The key takes on both practical and symbolic meaning because of its size. The lock on the prison cell is much too small for the size of the key. The key outside and apart from the cell could be a symbol of freedom.

Images and ideas are more definite in the drawings of senior infants. There is also a recognisable order to their work. The children organise their images and section off parts of pages to reflect another time or place. Detail and symbolism are part of their representations. There is more uniformity in their work than that of junior infants.

6.3.17 Senior Infant Summary

Over the eight topics discussed by the children in senior infants there is a continuous search for connections, order, origin and purpose. They enter into and sustain abstract thinking on the topic of truth yet largely remain within the literal interpretation of the Garden of Eden when discussing Adam and Eve. There is a noticeable and continuous dialogical process present in discussions of all of the topics considered by these children. They interact, comment, agree and disagree and build on each other's ideas. In searching for understanding, they clarify and differentiate, distinguish and generalise. The children are aware of order and balance in nature and connect language to function. Origin matter appears in a number of the dialogues with seeds and an egg being referred to. These represent very direct connections with some of the myths of the world. The original matter for earth, the sun, moon, clouds and humans are all referred to. A deity has a strong influence on the children and dominates some of their discussions. However, other concepts about beginnings are also present. The children conceive of nothingness, a void before the presence of earth while others view it as a blank canvas on which God constructed a planet. At times the children take issue with God

particularly over his 'trap' for Adam and Eve. They reflect on possible order in nature and in the cosmos to understand the sequence of evolution and the history of the earth.

This class of senior infant children are competent at engaging in philosophical conversation. They share many of the interests and approaches with the children in junior infants but there are also distinct differences. Procedures employed by this class are not evident in junior infants such as differentiation, alternative possibilities, and attempting definitions. The demand for evidence or the acknowledgment of the lack of evidence in an argument is a significant factor in the discussions. In general, the children in junior infants search to understand how it is and why, while the children in senior infants wonder how it is and how can we prove it. There are two possible reasons for this, the increased ability in reflection and the teacher's interest in science. I would see the increased ability to reflect as the more important of these two reasons. There is a significant development of dialogical language as, for example, 'I agree with Ciaran, he shouldn't have made the garden because there loads of trees with apples'. (script 9). 'I agree with Allie, Stephen and Ciaran...'. (script15) 'I think I agree with Luke...'. (script 15) 'I don't agree with Luke.. it doesn't go like that...'. (script 16). This is also in keeping with the results in chapter five. It is possible this is the key to many other higher order thinking skills. The younger children in junior infants listen to the comments of their classmates and refine their own input in the light of them. The children in senior infants directly negotiate and interrogate the statements of others adding a deeper complexity to the discussions.

The presence of accepted scientific fact is also notable in this class. Science education was not on the primary school curriculum at the time of the research in 2000 and it may be a reflection of the children's general knowledge. However, it may be significant that their class teacher is the research participant presently studying for a doctorate in science education.

6.4 First Class

6.4.1 Script 17: Adam and Eve

'Nobody was there before them' is how this dialogue opens. It then moves straight to a discussion on the matter from which Adam and Eve came. Dust is considered to be the primary matter of these first humans. The question then arises as to whether all humans are made from dust: 'Adam and Eve were the first people in life. God made them as dust. How do we know that we're not dust like Adam and Eve is?' A child suggests the story may not be accurate. Describing the Garden of Eden and the snake interrupts this dialogue on dust. The snake, it is claimed, has triangles all over his body. He is thought to have been green and tasted like liquorice. Some children are annoyed with Adam and Eve as '.. if Adam and Eve didn't eat off the tree we'd be in that garden now'. The snake's motivation is of great interest to the children. A child suggests he wanted the garden for himself and knew if he could persuade the people to eat the fruit, they would be expelled from the garden. This line of argument causes others to question God's motive, 'I think if God didn't want them to eat the tree why didn't he take the apples off first off it?' The possibility of being like God by eating the fruit is speculated upon. 'I think 'cos he said 'Don't ...don't eat the apples off that tree.. cos what you'd call it, you'll be like God' and what if they did, what if they did? Then they'd be like God and then if the snake eats it then he'll be like God'. This possibility is further reflected upon '...he could have turned into God and liked it!' The teacher wonders how God knew they had eaten the fruit. He may have known how many apples were on the tree or seen an apple with bites out of it is one reply.

Outside the garden is perceived as a wilderness. The children view the loss of the garden in terms of both physical and emotional outcomes. Adam and Eve would be sad, they would have no food nor house and they would feel guilty and lonely. A child returns to God's motivation and suggests the apples concerned were very good apples and he did not want anyone eating them. Dust as the origin substance of people is raised again but this time it is dismissed it: 'if we were made out of dust and if we went out in the wind we

would die because all the dust out of us would be blown away.' Rain would also cause 'dust bodies' to be washed away. A boy then offers answers to a number of the issues previously raised. He proposes that Adam and Eve were sent to the devil, the snake was jealous and wanted to be rid of them because he wanted the garden to himself and God did not want Adam and Eve eating the fruit because that was the source of his powers. Another child thinks both the snake and God wanted to get rid of Adam and Eve, although he does not imply they were working together to this end. A boy then interjects 'I disagree with everybody who said apples because how do they know it's apples?' It is then clarified that they meant fruit. Wanting to be God is seen as the source of the problem 'they ate the fruit and they felt as brainy as...as a psy...a psy...a psy-ologist (sic) and em ...they were brainier than God and he went up to God and he wanted to be his.. he wanted to be God so..'. Near the end clarification comes on the primary matter from which Adam and Eve were made. 'God made them out of clay and then he put all the rest of the things.. all the rest of the body parts in and bones and blood and stuff and then he said when they're *dead* they'll turn into dust'. Near the end of the dialogue comes an alternative version of the story. Collusion between God and the snake is evoked in this theory on the population of the earth 'I think I know why God... I think I know why the serpent. I think the serpent worked for God and then he told them to eat the apples so God will make them go out of the garden and then God made more people and the serpent told them and then he made more, he made more and the serpent keeped telling them so they'll go out'.

6.4.2 Script 18: The Origin of People

The children immediately defer to a deity, God as the creator of people. Some children suggest that people were created as a result of God's loneliness and also to take care of the animals. Others assert that when people were made first, they were put on other planets until God made earth and then these people were transferred to earth. The primary matter and process of making humans is reflected on with the image of bodies coming first and then hearts, brains and the 'noise box' being added after. Filling up the empty spaces on earth is proposed as a motivation for making people. There are different views

on the sequence of people and the earth. 'I think when em God made em... he was bored and he made one person and he kept on making people then he made the world and then he started making countries'. The primary matter of people is suggested as márla (playdoh) or clay but questioned on the grounds 'and if he put our hearts in we could just open it and take it out and rip it apart'. This concept of people being made from márla is raised again in the dialogue on Adam and Eve. Within this dialogue a child comments 'where are you going to get márla that time?'

Mixing creation theory with biology evokes this explanation '...I know how... I know how God made more people. He made a small baby and he made a big Mam, the same as our mam, and he putted a baby in her and he covered it up with the skin and then he putted it down and he made loads of people and then came doctors and then they might have took the baby out'. One boy is unconvinced by the reasons given for the creation of people, asking 'Why did God make us anyway? Was he bored? Was he sad?' Another child wonders whether a machine or God make wood. Both ideas are rejected 'God didn't make wood. Trees made wood'. As the dialogue opens up, other critical questions arise, ' how did God make the world? He couldn't 'cos he was born and he had no powers when he couldn't make the world. It was made already when he was born.' This is followed by 'I agree with that. Who gave birth to God... Miss? He couldn't have just came out of nowhere!'

The discussion then centres on the two genders within the species. The children, a class of six to seven years old boys become quite self-conscious and their teacher notes some of them become a little uncomfortable. The dilemma of having to marry a member of the same gender is pondered. 'I disagree with Darren because if you eh if everyone was the same you wouldn't know who was the bride and who was the groom getting married'. There were two of the species made because 'if he only made one there'd be only one type of everything in every country'. The children then wonder who was created first, a man or a woman, and Adam and Eve are referred to, with the children differing as to which of them were created first. The differences between the genders is talked about with girls

being reported as 'acting weird' because they link arms, can't play hide-and -
seek properly, have long hair and girl names. One child offers a solution as to
what to do with girls 'God could have just put boys on one country, girls on
another, boys on one, girls on another.. and another one.. Craig, I disagree
with you because if you were a girl... 'cos you couldn't be a girl 'cos girls.. 'cos
there's no girls named Craig'. One boy dares to put the counter argument 'I
disagree with Craig 'cos girls do play chasing and they do play hide and go
seek.' The question of where God came from is also answered. '... I know
who was God before God was born, Adam and Eve!' Lots of ideas start to
flow at this point of the dialogue. 'I know who we...... we really are cave men,
cos cavemen were there first.' '... if God only made boys, boys wouldn't know
what girls was.' The consequence and implications of there being no females
is pondered. There would be no mothers, no girlfriends when they grew up,
and no-one to help pay the mortgage. While these would be viewed with
regret, there is also a counter-argument, 'if there was no such thing of girls
you wouldn't have any mam and the you'd be able to do anything you want.'
However, the general consensus is that mothers are caring and necessary
and to end the dialogue, a little bit of deductive reasoning is introduced 'if
there was no such things as Moms, there'd be no such thing as us.'

6.4.3 Theme Review: Origin

The children stay within the literal interpretation of the Bible story of the first
people. They wonder about the primary matter of Adam and Eve and a
number of children consider it to be dust. Some wonder if all people are
therefore made of dust. Others consider this improbable as rain or wind would
destroy a dust person. A lot of the dialogue is given over to discussing the
motivation of Adam and Eve, God and the snake. Adam and Eve may have
wanted special powers that were available through eating the fruit. It could
make them like God. The snake could have been jealous of Adam and Eve
and desired the garden to eat the fruit. God wanted to keep the best fruit for
himself, or he may have plotted for Adam and Eve to leave the garden so they
could not obtain his special powers. In terms of a storyline, the children's

version and understanding has all the hallmarks of a mythic tale or a medieval drama.

There are two sections to the dialogue on the origin of people. The first dwells on the purpose for people, the primary matter from which they were made and the method used for their making. The children accept a deity was involved and give his reasons as being lonely, wanting to fill up space on earth and to take care of the other animals. In the course of the discussion the universal, eternal question of what was there before arises. In their wondering about who made God, the children reject the idea that he came from nothing. Cavemen are accepted as the human ancestor and to some extend there is an acknowledgement of evolution. The second half of the dialogue reflects on the two genders within the human species. The children never question why there should just be two and not three or more, rather the consequences and implication if there was only one gender. Intention and purpose dominate first class children's search for understanding the existence of people.

6.4.4 Children's Pictures: Origin

Fig 6.39
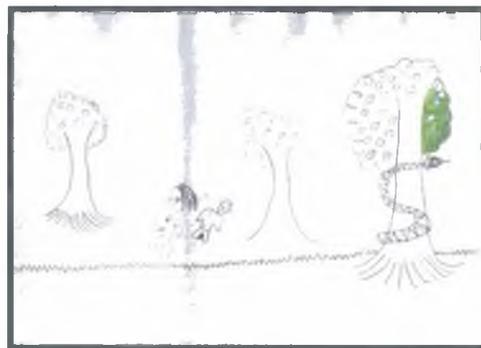
Fig 6.40

Fig 6.41

There is a new feature in the art of the children in first class that is not present in that of the other two classes, namely an explicit awareness of gender differences. Many of the pictures of Adam and Eve have their genitalia depicted as for example, in figure 6.39. In this picture the snake is large and central. Several other smaller snakes are present on the tree. Lightning appears to be striking Eve and there are dark clouds in the background. Figure 6.40 conveys a similar awareness and distinction between Adam and Eve. Eve is walking in the direction of the exit gate while Adam watches. Figure 6.41 depicts God attacking the snake on the ground. There are in total six snakes in this picture. Eve is outside what is possibly a house or shelter and Adam is not present. The snakes have taken over the garden.

6.4.5 Script 19: Weather

The children begin by explaining wind as air that is moving and thunder 'is just rain and lightning'. Their teacher asks what causes the air to move and thus to make the wind. God is introduced as a higher power who makes the wind by blowing. The first part of this dialogue is dominated by mythic explanations and references to a deity. Images of God watering his flowers to make rain and thunder being a consequence of God's anger or his footsteps are all evoked. Other ideas include 'I think I know what the wind is moving like cos eh the wind up above...the slow wind in the sky moves fast and... it's like a pipe coming down and it blows the other wind slow....slowly'. Bonfires in heaven are suggested as the cause of lightning and the recitation of curses by people is cited as reason for God's tears that cause rain. Children are sometimes told by parents that God will cry if they are bold or use swear

words. This concept of weather being a reward or a punishment by a deity is returned to later in the dialogue. Some of the children suggest that Ireland does not experience extreme weather like tornadoes because God thinks it is the best country. This is later refuted by another child, who points out 'Ireland is the most litterous [litter making] people in the…in the world', a reference to the amount of litter in parts of Ireland. Later, some of the children declare it is the geographical position of Ireland that is the reason for not getting the extremes of weather. They mention Kansas being very far inland and Ireland being in the middle of an ocean. Presumably this is a reference to the film *The Wizard of Oz*.

Sometimes the children mix science with the deity. 'I know how God makes the rain. Two clouds mix together and all rain comes down'. 'Yeah eh and the air just might be the wind blowing oxygen and eh the rain is just all inside of one big kind of bottle and God just brings it all down'. Equally the image of a bonfire in the sky is dismissed by others 'I think I disagree with PJ and John Paul because it definitely isn't a bonfire 'cos, come on! It would burn all the clouds…a bonfire would burn all the clouds when they would come out…. *and* God doesn't cry!'. The children think about what creates a storm. The nature and matter of hailstones is considered. Some spurious connection are made ' it might be all hail stones gathering together. And that's like tons of bees make kind of eh, electric things'. The teacher enquires further about the bees and the child clarifies his thought 'yeah, like they put all their tails together to make electricity.' People do talk of electric storms so presumably it is justifiable to think of a source for the electricity. More scientific reasons are offered for the existence and make up of hailstones. 'When it's near the clouds, the wind and it's very, very cold all the rain what's coming down turns into little balls and that's how it makes hailstones'. The concept of the rain cycle is developed by a child contending the clouds 'suck up' the rainbow water and then 'spit it down again'.

The origin of rainbows is raised with some confusion between the Bible story of Cain and Able and the story of Noah's Ark. Rain dominates this dialogue and mythical or religious images are mixed with reason and science.

The children comment on how clouds are a dark colour when it is going to rain. This is followed by an explanation for thunder lightning. 'I think when thunder and lightning comes God and all the souls are having a feast'. The consequences of not having the elements are viewed as critical, 'if there was no wind you couldn't breathe at all, 'cos there'd be no air and you wouldn't have to breathe at all'. After this a whole discussion ensues based on God keeping weather in bottles. It is probably this is stimulated by Roald Dahl story *The BFG*. The story tells of a Big Friendly Giant, the BFG, who is friendly to children and keeps elements of weather in large jars. It is a very popular story for this age group of children. Arguments around this centre on the difficulties of keeping the sun and hurricanes in a jar and the problem of the sun jar being placed next to the snow jar and causing the snow to melt. This section of the dialogue becomes quite humorous with a child retorting 'He (God) has them house trained!'. In the middle of this discussion a critical question emerges 'I think that em, this is what confuses me. How do the weather people know that it's going to rain and stuff?' This stimulates comments on satellites and the directions of the compass. Towards the end, a child returns to the subject of clouds and offers an explanation 'I know how clouds come through (true?). They could be somebody dead and they could be a hole and the clouds could have been blocking them'. Clouds as gravestones is an interesting image. The dialogue ends with the children talking about how it feels to be disagreed with in the group.

6.4.6 Script 20: Seasons

Seasons are associated with giving order to the year 'otherwise the hibernators would either never get to sleep or else never get to wake up'. The children associate the seasons with balance between hot and cold. The possible chaos ensuing from disorder within the seasons is given vivid description. 'If we had winter all the time it'd be Christmas nearly every three weeks and if we didn't have the four seasons and no summer then school would never be closed. And if we didn't have spring the flowers wouldn't grow and if we didn't have autumn nature couldn't rebuild and if we had spring all the time the flowers would be just getting bigger and bigger'. Understanding

something by imagining its absence illustrates the implications of disorder. This approach further developed by another child examining the implications of having no sun or moon. 'If you had no sun it'd be dark all day and if you had no moon it'd be morning all the time'. Other children defend particular seasons for their particular value; spring for renewal and 'you definitely need summer to play outside with your friends'. Some children wonder if summer was all year round would flowers just continue to grow and grow until they made a jungle. This is later countered by a child contending for flowers to keep growing they would need rain. There is a general consensus that one season only would be a bad idea. The children see merits in all of the seasons and do not opt for one as opposed to another. A child generalise the argument and develops it into the implications for humans. 'Like, anyone really. How about people's birthdays? If there was, say, only spring, then the people who have birthdays in summer, autumn and winter would never have been born!' This view is opposed in a later contribution. 'I disagree with John and I agree with Christopher because I think, John, that if the people's birthdays were in November and that was gone then they wouldn't exist and so we wouldn't feel sorry for them. And then Christopher, I agree with you because if they never got to sleep or if they were asleep all the time then we'd never see any animals that hibernate'. This acceptance of not knowing if something is not there gives the dialogue a theoretical basis. The next child plays with this concept '........if someone's birthday was in February and all of a sudden everything changed and there was no more spring then they'd never get any older; they'd stay babies all the time'.

The children associate the seasons with the passing of time and suggest 'you would never have a different year 'cos the seasons are what makes the years pass'. If order and sequence are lost everything is thrown into disarray. One boy claims to have 'a time going backwards' feeling because others are disagreeing with him. Another child thinks that maybe indeed time is going backwards. Most of the children disagree with this suggestion but one child who maintains it is only a matter of turning back the hands on the clock.

6.4.7 Theme Review: Meteorology

The children search for an outside force or being that is responsible for the weather. Some seem convinced it is the whim of a deity while others argue the case for science. Many of the children mix both. With a higher authority dictating the weather, a moral aspect emerges. The weather becomes a reward or a punishment according to some of the children. Clouds, wind and rain dominate this dialogue with rainbows, thunder and lightning and tornadoes being mentioned. This can be read as reflective of Irish weather. References to science are also made with mentions of the geographical position of Ireland, the rain cycle and the purpose of satellites.

The children's awareness and desire for order and sequence underpins the dialogue on the seasons. They know the seasons and associate particular happenings with each. It is how they understand time. It is interesting that by the end of the dialogue, there are comments on time itself. The children mention the main festivals from the seasons, Christmas, Easter and also the importance of birthdays. Removing birthdays almost removes identity for them. There are differences of opinion as to whether some animals and flowers would be in existence if the seasons were in chaos or if some seasons did not exist. Overall the children are very appreciative of and cling to the order that they know. At no point do they indicate any knowledge of other countries having different seasons to that of Ireland.

In keeping with the findings in the other two classes, first class children also display a keen awareness of meteorology. They are aware of the climatic order in which they live and are cautious of changing the given order.

6.4.8 Children's Pictures: Meteorology

Fig 6.42

Fig 6.43

Fig 6.44

Fig 6.45
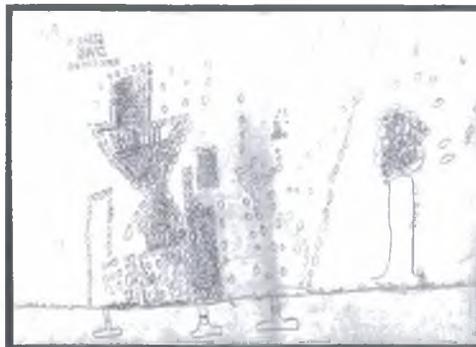
Fig 6.46

The children capture a feeling of movement and action by depicting weather storms, whirlwinds and tornadoes in their drawings. Figures 6.42, 6.43 and 6.44 express action, danger and excitement. There are no humans present in these selected pictures. The seasons are represented in figure 6.45 by the main features associated with them. As with the drawings from the children in senior infants, each season is allocated a section of the page.

Figure 6.46 is an expressive portrayal of autumn. The picture is a series of leaves with some of them forming an arrow facing downwards, the direction for the falling leaves. Underground, the roots of three plants or three bulbs are happily smiling.

6.4.9 Script 21: Earth

The children wonder about and reflect on the origin matter of earth. In keeping with the children in the other two classes, the making of earth is viewed as an art project where by the earth is constructed and painted. The dialogue opens with a child declaring his thoughts on an original substance. 'I think that the world is made out of márla (playdoh)... blue márla with bits of green stuck onto it'. God is introduced as the creator and the constructor of this process. Clay is named as the origin matter and it was shaped into little balls with 'new wrinkly bits' to make the countries. Continuing with the art theme, it is suggested God started with márla and then painted on the features. Others claim God has special powers which he used to make earth. While retaining the concept of a higher power, a child supports an evolutionary theory 'I think that he made dinosaurs and then when they got out from the water and went onto earth, their DNA spread into the world and then we came'. Empathy with God is expressed as 'he used all his powers trying to make everything'. However, critical thinking is also present 'why can't the world be a triangle or a square?' The shape of the earth introduces engineers into the dialogue '...people went into college when they wanted to be engineers, I think *they* builded it'. A child then attempts to reject the God argument but finds it difficult to articulate his thoughts. 'I think it's, it's not God it's,..em it's ... if he built a whole city... different city..different places.. I know 'cos it's not 'cos eh, people were on earth because know.... In this life if you fall down on something yacky or sticky....' . It appears this is an attempt at arguing one being could not build lots of cities all by himself and the origin matter of earth could not be play-doh because it would feel sticky if a person fell on it. While still accepting a deity as the creator, this argument is further developed by the next child asserting 'I disagree with all the people... I disagree with all the people who think it's márla and clay that God used to make the world, right? We can *see* glass and

201

all the wood and blocks... and then if you touch it you realise that it isn't márla at all'. Here observation and experience are used as evidence against the main argument. Some respond by evoking 'God's powers' but they are less clear as to the matter and process. There is confusion and then a child wonders and regrets that the world is not made out of rubber 'so when you are dirty you could just rub yourself off the wall and you'd get clean'. Another origin theory is proposed. This time there is no higher power. 'I think there was lots of planets and they all crashed together and made us'. The first theory re-emerges with a different slant. This time it is viewed as an experiment. 'I think that 'em God wanted to see himself whether he'd got the hang of making dinosaurs, then he got the hang of making us so then he made the world for us and I agree with Alan'. Some still insist márla is the original substance and one declares 'I think we are made out of márla (feels skin on back of hand) 'cos that *feels* kind of squishy'. However, this is not accepted by all and a counter argument is put forward, 'if we were made out of márla we could take off parts of our bodies'.

The teacher asks Colm, the boy who initially suggested the márla as origin matter, where he got the idea. He replies it is from the Bible. The teacher suggests he may be confusing márla with clay. She notes that Colm looks unconvinced. Another child assists in the possible explanation. "Member (remember) God said to Adam and Eve ' you were made out of dust and when you die you'll turn back into dust'? So, we can't be made out of márla'. While accepting people are not made out of márla, some regret this because if 'D'you know when people get rolled over? Em if you're márla you'd just get flattened and then you'd be able to get up again'. The search for the origin matter of earth has at this point developed into two distinct and separate arguments. Some go with God as an inventor who used clay and márla while others argue for planets crashing 'in together' and a more evolutionary process. There is an-openness about the end of this dialogue. There is an atmosphere of accepting different possible answers to the dilemma. However, a child claims, 'I think I know how the world got made ....It was just an extra planet coloured green and white and it had no name

and then it was an extra planet and then God made people and put them on the planet and called it earth.'

6.4.10 Script 22: The Cosmos

The children express a fascination with the elements of the cosmos. 'What if you could fly up and touch the stars?' is how it opens. The teacher asks why God made the planets. This leads to a discussion on life on other planets centred on aliens. They make the connections with humans, 'if God didn't make the world we wouldn't be made.' The children talk of Mars being near to earth and wonder why the aliens do not come to visit. A reflective comment wonders about the edge or end of the world. 'What if you could just fly up and touch the end of the ....the end of the world?' The connection between the earth and the other planets is recognised, 'if God didn't make the planets we wouldn't be here at all'. Some doubt the existence of aliens on the grounds pilots would have seen them while they were flying and others argue that if aliens existed, they would have made themselves known to us by now. Authors, who write stories on aliens, are questioned as to the evidence on which to base their theories. In keeping with the demand for evidence in other dialogues, the children understand experience or observation as evidence for an existence. The behaviour of these other beings is reflected on with the possibility of them being hostile and 'zapping' people. The teacher then asks if we need the planets. A child asks and answers his own question. 'Like, do you mean what are stars for? People what are dead, they turn into stars.' Later a child suggests stars are the end results of planets blowing up. Others think they are decorations.

The search and interest in life on other planets almost makes the possibility a reality for some. 'I think there must be people on other planets 'cos some people go up there to look for life on other planets. To find out where they are.' Identity and physical features are the concern of another. He imagines Mars as a mirror world of Earth. This could lead to difficulties. 'People on Mars are different, like, from us. They might have different faces

and if one of us had the same... if a person looks like another person on Mars, what would them two do? Could they swap?' A child wonders if he could go to the zoo up there.

The dialogue returns to the stars and the concern that a star would kill a person 'if you didn't know ....you have to know how to handle one to get one.' His teacher enquires how would you handle a star. 'You'd have to get a book on it first' is the reply. He later elaborates on catching stars in nets while others express concern over their 'jaggy edges'. The purpose of the stars and the moon is given as providing light at night. The Jabber Man is also associated with a full moon. He is a fictional character thought to frighten children. A dilemma arises at the end of the dialogue. It begins with the following contribution. 'I think aliens are not real 'cos if you pull off an alien's hat he couldn't be able to breathe.' The teacher wonders if they are not real why would they need a hat. Another child expands on this as if something is not real 'they don't exist'. Others point out this 'hat' is an air helmet for astronauts. How this situation came about is explained, 'they could be real 'cos maybe long, long ago people were in the world and they killed all the aliens when they came down and they took off their hats and they brought one of the hats as a souvenir back home.'

6.4.11 Theme Review: Cosmology

The children pursue discussion about the original matter from which earth was made or evolved in this dialogue. Márla (play-doh), is referred to continuously until the teacher discovers it is confused with clay and dust from the Bible story. The presence of substances such as glass and wood is viewed as evidence that márla cannot be the only original matter. The process and order in which the earth and its features came into being are also subjects for discussion as is the shape of the earth. Planets crashing into each other reflects the scientific 'big bang' theory and the evolutionary theory of life beginning in water is also mooted. DNA and dinosaurs are mentioned in this version of existence. By the end of the dialogue, there is no conclusion but concepts and ideas have been opened up and refined.

The elements of the cosmos and their relationship with earth and people are what concern the children in the dialogue on the cosmos. There is strong acceptance of everything being part of a whole, a unity of existence. The stars and the moon are the particular elements the children discuss. They wonder about their purpose and their shape. Other life in the cosmos, particularly on Mars, intrigues the children. There is a difference of opinion on this. Some are firm in their belief that there is life in some form out there. Others counter this by pointing out there is no evidence and therefore no proof of other existences. Overall the children deal with the cosmos from a mythical perspective. They talk of 'catching stars', of stars being dead people and the aliens 'zapping' people. There is little evidence of scientific knowledge.

Origin matter intrigues the children and there is an acceptance that whatever that matter was, it must still be present on Earth today. Such a claim resonates with Anaximander's argument that the world originated from the same process that sustains it. The universal question of the purpose of the cosmos occupies the children and they wonder about the possibility of other life forms.

6.4.12 Children's Pictures: Cosmos

Fig 6.47

Fig 6.48

Fig 6.49

Fig 6.50

Fig 6.51

Outer space for the children in first class appears to be a busy place with lots of action. Figure 6.47 has many colourful planets and the sun in a dark chaos. Figure 6.48 features the cosmos filled with planets and stars whereas figure

6.49 has a planet, possibly Saturn and an inhabited planet with figures and a spaceship. God as powerful figure and the creator of earth is portrayed in figure 6.50. God is 'zapping' the earth into existence. Figure 6.51 gives details of the beginning of earth, with the geographical features of rivers and fields. There are stick people on a number of the land blocks, some of whom are playing football. There is great movement in the area above the earth with a blue line, possibly earth's atmosphere, protecting the earth.

6.4.13 Script 23: Truth

The children's teacher decided to introduce this topic by reading Emily Dickenson's short poem, *Words*. This long dialogue begins by searching for a definition of 'alive', moves to attempting a definition of what is real, and to understanding the concept of happiness and what is truth. Initially the children question if a word can be alive on the basis that it cannot walk and if it can live, it must be able to die. A child then suggests if a word has seven letters it will live for seven years and then die. Attempts by the children at defining what it means to be alive brings forward conditions such as the ability to speak, to run and to move and by implication having legs. Having largely dismissed the truth of words being alive, a turning point comes when a member of the class contends 'all the words are dead' is an internal contradiction. The act of speaking is viewed as giving them life. Others identify with this argument and one boy asks 'if words are dead so how are we saying them in the class?' This is supported by a similar question about how they could be written if they are dead. Some disagree with this argument and insist that if words were not dead, they would be out playing soccer. An element of science is introduced 'then he wouldn't really be dead like, because it's just ghost like... I think it's kinda like your breath is just coming out of your mouth'. The argument develops back and forth with some children claiming words only live for the moment they are spoken and then they die while others insist if words are alive they would have birthdays. One child differentiates between these arguments by introducing sleep and being awake to replace alive and dead. 'When you talk and you forget it maybe the words are asleep and then when you say it it's probably awake....' As the dialogue

evolves the children become less sure and an element of doubt appears. 'I mean..... if you want to write down on a piece of paper the words and if they're alive... why don't they talk?' This then leads into a broader perspective and generalisation ' and em ..if words are alive...trees are alive and why aren't *they* walking around and talking?' There is disagreement between the children 'I disagree with John Paul because if words were air then if you said the words they'd come out of the air and you'd be breathing the words into your mouth'. The teacher enquires how one would know that is not happening. One child suggests it is just the functioning of the voice box by which words are made. This is followed by an image of a voice box having a door that opens for the word to exit. The teacher interjects at this point to ask the children if they now know when things are true or real.

The dialogue moves to discussing whether the world is turning or not and how would they know if this is true. One boy sums up the dilemma 'I agree with PJ....because....actually I disagree with PJ because how do we actually *know* the world is moving?' The teacher generalises this question by repeating how can one know if things are true. Some conclude that one needs to observe an object or a happening to know it is true. This many of the children make as a condition for truth. Cartoons are seen as not real because they are drawn whereas one can touch real humans. The teacher then asks if happiness is real. Initially it is proposed that by touching a happy smiling face, one is touching happiness. A further distinction is made 'if you want to touch happiness you have to *know* if someone is happy'. The children begin to acknowledge the concept as being abstract. Three contributions show how this section of the dialogue evolves. 'I think you have to find happiness by going down deep inside you and find it in your heart'. This is directly followed by 'you have to find happiness by being alone where you're not busy and you have to think about it'. A little later almost at the close of the session comes 'Miss, I think if you want to touch happiness, you must get happy'.

And so happiness being a state of mind brings this dialogue to an end. It is a long session and travels through such abstract issues as truth, being

alive, reality and happiness. The children sustain their interest and move with the arguments as they evolve.

6.4.14 Script 24: Good and Evil

The teacher opens this dialogue with the question, are people born either good or evil? Initially the children view this as a pre-determined state. Hitler, the German leader is mentioned. Greed is also referred to as a source of evil. Attempts are made at defining goodness. Doing nothing is one suggestion with the explanation 'Yeah, you just play around and you don't hurt anybody'. Examples of badness are given from film and television. The two opposing forces are named, 'I think good is God and bad is the devil'. The devil, vampires, witches and the festival of Halloween are all listed as being connected with evil. It is also acknowledged that some witches are good. God is evoked as the source of these attributes, 'God makes it... good on somethings and God can make bad or good'. Others divide the source with the devil being responsible for evil. A need for balance is argued for and a child contends it is God who gives this '... and I think that God made a lot of good people 'cept then he said 'I think I have to make some bad people too'. This is further developed by a child proposing that for every ten good people made, there are ten bad people made. The latter event would take place at Halloween. A change in the argument then takes place. The state of good and evil are not viewed as pre-determined, 'God only made people. I don't think he made them bad or good'. This change of responsibility is then differentiated by the comment, 'he only made them and checked em to see if they're bad or good'. Other examples are given from the children's lives and references to 'curses' (using swear words) are made.

Adam and Eve are introduced as the origin of this dilemma. However, the devil is said to have thrown 'a dart' at them to make them bad. The dialogue then moves to interpreting behaviour as a matter of personal responsibility. 'I think you make the decision inside yourself, that you say 'I want to be bold/ good'. It's inside yourself what wants to make the difference'. This choice or conscious decision may have to be made at birth, 'babies might

have to pick whether to be good or bad'. Possible social factors are also indicated as contributing factors. Imitation is asserted as the means by which some people become bad. Bigger people and adults are seen as responsible for this. Where the origin of this lies raises the curiosity of a child, 'I think everybody knows bad curses are bad so who made up curses? How did they know they're bad?' Some still cling to the power of God and the devil while others opt for personal responsibility. The dialogue ends with a number of references to the children's experiences and to television programmes such as South Park. One recollection from playschool evokes heaven, the reward for goodness, 'once when I was a baby. I was in under my chair at playschool... I was looking out of the window... pathway to heaven... I said to the teacher 'Is that heaven under my chair?' She said 'no' and I said Oh'. Others wonder why God doesn't stop all the bad people asking 'why doesn't he make them all die?' Near the end a child expresses frustration at the fact that ' ....if Adam and Eve didn't eat that apple... we'd be in Heaven now'.

6.4.15 Theme Review: Ethics

The dialogue on truth is based on the question; if something is alive is it real and if it is real is it true? This leads to attempts at defining 'alive'. The children perceive this as represented by human characteristics. One of the criteria they deduce from their dialogue is that life is predetermined by death. The children also argue strongly for observation as evidence of reality. However, when they reflect on the abstract concept of happiness, they develop the concepts of knowing something and a state of being for reality and truth to exist. The concentration and interest displayed by the children to sustain and develop this dialogue is quite striking.

Good and evil are initially understood as pre-determined states. They exist in opposition to each other and as binary opposites are represented by God and the devil for the children. Some children try to explain the populating of Earth in groups of ten. In the process of giving examples from their own lives, film and television, the emphasis shifts from the states of good and evil being pre-

determined to being the responsibility of individuals. Social conditions such as poverty and the example of adults are viewed as the deciding factors in shaping why and how children become good or bad.

These children display a good capacity for discussing ethical and moral issues and an ability to sustain their arguments. They manifest the language and thinking skills necessary to deal with abstract concepts.

6.4.16 Children's Pictures: Ethics

Fig 6.52

Fig 6.53

Fig 6.54

Fig 6.55

The children had talked a great deal about the possibility of words being alive during their dialogue on words and truth. The drawings reflect this. In figures 6.52 and 6.53 the letters and words are involved in human activities. Evil is shown as affecting the climate or atmosphere with a sad-faced sun crying out 'no' to the person stabbing another in figure 6.54. Figure 6.55 also features a

sky in chaos because of a road accident. There is someone behind a door, maybe locked in as a result of bad behaviour.

Some of the drawings of the children in first class have order and movement and excitement. Their pictures relate to their discussions. In general the drawings are quite bland. In terms of concepts and ideas, their spoken word is stronger than their pictorial representations.

Of the drawings from the three classes, those from the children in junior infants are most expressive and individual. Exuberance and confidence emerges from them. There is more detail, order and symbolism in the work of the children in senior infants and with this structure and order comes more uniformity. The children do express concepts and ideas but there is a caution palpable in their drawing and one senses a reluctance to commit on paper. This reluctance may be a lack of confidence in the medium. Judging from the children's pictures, questions arise as to what is lost in the process of conforming and finding the accepted order of life through schooling and more importantly whether it has to be so.

6.4.17 First Class Summary

Over the eight dialogues the children in first class exhibit an ability to negotiate and sustain an argument within the abstract and the concrete and to interpret meaning from story and examples. They discuss abstract understandings of the meaning of happiness and make literal interpretations on the story of Adam and Eve. In their dialogues the children negotiate what evidence can be accepted as proof of an argument. Observation for them is a primary source of evidence. The children often refer to a deity as a higher power but in keeping with some of the discussion in the other classes, having accepted this authority, they then begin to look beyond it. They search for a motivation by the deity and offer many possibilities. Some scientific theories are also present in their arguments. The primary matter of humans and the purpose for human existence is pursued. The children conceive of a unity of existence between humans, earth and the bodies of the universe. They look

for order within the functioning of the elements. They do contemplate a different order for the seasons but opt to support the order they know. The dialogical abilities of this class are quite pronounced. They consistently interact and negotiate with each other and with each other's ideas.

They define, make associations, differentiate, imply, explain, give conditions for definition, generalise and give a context to arguments. In keeping with the findings of the children in the senior infants class, there is a noticeable level of interaction between the children. Examples of this are, 'Can I ask a question?' (script19), 'I think that 'em. This is what confuses me...' (script 19), 'I can answer your question...', (script 17) ' I have two ideas...', (script 17) 'I have two questions to ask...'. (script19), 'I think I agree with Darren...'. (script 24), 'I disagree with myself and I agree with Craig...' (script 22), 'I know what Anthony means...' (script 22), I disagree with all the boys that agree with John'. (script 17) This level of discourse is the scaffold or tool for other higher order thinking, as part of philosophical thinking, to emerge. In turn, this is reflected in the structures of the dialogues. The children begin to accept the possibility of some questions having no acceptable answer, of not knowing. In this they are beginning to approach the nature of knowledge. They think beyond the limits of knowledge and wonder about infinity or beyond the accepted boundaries. The children's concept of time is much broader than that of the younger children. There is some evidence of science concepts and an awareness that enables them to generalise and reconnect arguments to social structures. In summary the children in first class wonder why existence is so and how it can be proved.

6.5 Summary of Research: Chapters Five and Six

6.5.1 Categories of Thinking

The research was initially organised within the pre-constructed categories outlined in chapter four. It is clear the children identified with and engaged in discussing the eight topics of Truth, the Weather, the Origin of Earth, the Seasons, Adam and Eve, the First People, the Cosmos and Good and Evil. All of the topics stimulated sustained shared and focused thinking from the three classes. The initial analysis in chapter five shows cohesion between the discourses of the children in senior infants and that of the children in first class. This consistency becomes clearer and more identifiable in the analysis in chapter five. The youngest of the children in junior infants demonstrate an interest and competency in talking about the topics. They comment, listen to their peers and re-adjust their contributions in the light of what has been said. Their dialogues are a collective teasing out of the issues. The significant change in the discussions of the children in senior infants is their increased ability to reflect. This ability in senior infants is almost four times greater than that of the children in junior infants. Over the total of the eight topics reflection accounts for 16.05 % of senior infant talk and 4.48% of junior infant talk. The other significant result is the increased dialogical interactions between the children in senior infants. In general, the talk of the junior infant children accepts the comments of others and adapts their own contributions accordingly. Rather than the parallel talk of junior infants, the children in senior infants engage with each other to a greater degree in their contributions. They are less accepting of what is said and they interrogate the comments of others. The children in senior infants are more questioning in spirit although this is not reflected in the actual questions they ask.

Questions increase significantly in first class, registering 9.27 % of the total talk in comparison to 0.97 % in senior infants and 0.85 % in junior infants. As has been commented on previously, the spread of dialogical abilities is greater with the children in first class (Fig. 5:6, p.136). It will be claimed in chapter six that this is based on an increased ability to reflect combined with increased dialogical interactions. An integral complement of this is the increase in negotiating more abstract concepts through a greater proliferation of higher order thinking skills.

Children in all of the classes use examples, analogies and observations to understand. They are often present at the opening of the dialogues and more abstract understanding and concepts evolve from them. In the process of engaging with abstract ideas, the children at times become 'lost' when the next step of an argument eludes them. They return to examples and observations and articulate the argument from another angle. In so doing, they scaffold their own thinking and new pathways in thought emerge. Higher-order thinking, necessary for philosophical thinking, is present in all of the dialogues with all of the classes. However there are differences within the class groupings with the children in senior infants and first class able to cope with more levels of abstraction than the children in junior infants. This is evident in the ethical subjects when the youngest of the children stayed within a mythic framework to discuss the topics. Senior infants' increased ability in reflection, as noted earlier, is viewed as significant to accessing other higher-order thinking skills. The research vindicates and affirms the work of Donaldson, Egan, Matthews and the many others who have argued for an acknowledgment of children's thinking abilities. In the course of the twenty-four dialogues there is consistent evidence of abilities in explaining, giving conditions, differentiating, implying, inferring, making connections, offering alternatives, supporting arguments, questioning arguments and reflecting. Individually these abilities may not be evidence of abstract or higher-order thinking but their collective presences over the series of thinking times is. In chapter five the analysis with the pre-constructed categories indicates certain abilities across the age groups. The children are competent articulating a thought, offering a reason, reflecting

215

and inferring. However, this initial framework is based on categories assigned to individual contributions. The analysis in chapter six differs from the framework in chapter five as the whole or total dialogue is considered. This latter analysis reveals a wider and more comprehensive range of abilities in abstract, higher-order thinking than the initial framework results. There are several reasons for this. Individual contributions only make sense within the context of the whole dialogue. As well as being of value in their own right, there is an added value when the contributions are read in context. In reading and analysing the scripts in their totality in chapter six, a greater appreciation is arrived at. Adelman's theory on the need to read and analyse talk as a whole is thus vindicated. The initial organising of the data has been necessary in chapter five for the more in-depth analysis in chapter six to take place. This initial structure turned out to be a starting point and gave an indication of what was to come. It is also a significant indicator of potential. Areas of thinking such as summarising and hypothesising which are not present to any significant degree in the dialogues are registered in the initial analysis.

There is consistent evidence from the scripts of the pursuit of truth. There are no set agendas and no evidence of sophistry. The children lose themselves in the discussion. The structures they adopt - as, for example, looking for evidence for an argument - would have been modelled by their teacher at some point. Conditions, consequences, definitions, distinctions and connections are some of the processes the children utilise. They build upon the ideas of others and are not afraid to doubt or disagree. There are differences within the class groupings that are significant in understanding the developing thought processes of children between the ages of four and seven.

The thoughts, arguments and concepts of the children are central to this thesis. This chapter is dedicated to listening, re-telling and reflecting the narratives on the four chosen themes. However, it is important to acknowledge the role of the teachers in each of the three classes. The teachers support, extend, guide and facilitate the children to think aloud and

to listen to the questions and comments of others. There are numerous examples of this is the transcripts. For example, on the theme of meteorology, (script three) the junior infant class teacher asks what happens to clouds when they are no longer visible. The children ignore the question while they continue to discuss the rain and at a later stage a child returns to the teacher's question. The teacher does not demand an immediate answer but puts the question out to assist the furthering of the discussion. Again with the class of senior infants, their teacher having accepted the children's answer that God made the world (script 13) focuses the children's attention to how and with what might the world have been made. The teacher in first class helps the children clarify their thoughts and explain what they mean when a child talks of bees making lightning (script19). The presence of the teachers is essential but not dominant and they gently scaffold and structure the conversation as it evolves by their own contributions. This role is further discussed in chapter seven.

6.5.2 The Children's Concepts

This thesis set out to research young children's understanding of origin, cosmology, meteorology, and ethics. The children do speculate on the original matter. They look for primary matter to understand the origin of existence. This question arises with all three classes. Throughout the dialogues the children refer to a deity as an explanation to the topics they are seeking to understand. This is equally evident in their drawings. While accepting the explanation of God as the creator, the children also look beyond it. They propose both air and water as primary substances. The concept of existence emerging from an egg or developing from seeds is also present in their dialogues. The image of earth floating on water is suggested. Concepts of a void before the beginning of the universe or indeed the possibility of no beginning, of infinity, of time having no boundaries are also current. Some major cosmic event is referred to as the cause of a beginning. Matter and function are connected when it comes to the existence of people, and the features of the world and the universe. There is an underlying theory that to exist, matter must have a function or a

purpose. This purpose may be solely decorative as some of the children's reasoning on the presence of other planets suggests. The children are very conscious of possible connections between geographical features and people on earth and between the earth and the other cosmic bodies. They never view their existence as isolated happenings. There is an acceptance of an inter-connectedness and symbiosis. The children search for a sequence or pattern to understand. This approach has the potential for developing a theory. It is the beginning of organising material and abstracting meaning from it. These attempts at conceptual order are reflected in the organisation of images in their drawings.

The search for order and sequence is very evident in the children's dialogues on the weather and the seasons. As has been indicated they had a great deal to say about the weather. Observations are the circumstantial evidence on which the children argue. Awareness of change is the central mode of their perceptions. The changes in day to night, the changes of the moon, in the clouds, in the weather and the seasonal changes of the trees are all part of the evidence the children observe. Making a connection between them and seeking an order to explain them is the focus of their dialogues on these topics. It is an attempt at understanding time.

On the ethical issues there is a divergence in the concepts expressed by the children. The younger children in junior infants adhere to binary opposites in their conceptual understanding and in general view them as pre-determined characteristics. Those in the other two classes differentiate between the extremes of the concepts and give people autonomy over ethical matters. As has been discerned in chapter five, particular topics lend themselves to particular ways of thinking. In general the topics dealing with meteorology lead to thoughts and understanding on order, sequence and change through observation. Matters of origin stimulate thinking on time, purpose and function and existence through speculation and theorising. The ethical subjects facilitated thinking on abstract concepts through explanations, consequences and judgements.

Through dialogue, the children search for an order in nature and in human life. They seek to understand the evolution or origin of the universe and the history of the earth. They show evidence of abilities in thinking in the abstract and in understanding abstract concepts. In summary young children are natural philosophers when given the opportunity to be so. Through philosophising they are part of the universal human bond of being that wonders about origin and existence.

6.6 Conclusion

From the pre-constructed categories in chapter five the children's actual abilities in thinking were organised. All of the classes to a greater or lesser degree participated in reflecting, making a statement, reasoning, judging, questioning, inferring and using analogies. As has been ascertained there were variations within the class groupings with a greater consistency between the children in senior infants and first class. Significantly the children's potential abilities in thinking were also indicated. In this research there are comparing, hypothesising and summarising. In chapter six the twenty-four dialogues by the children were documented. These were grouped within the themes under investigation, origin, meteorology, cosmology and ethics. A selection of the children's drawings gave an insight to their concepts on the themes through a different medium.

The research resulted in a substantial volume of information. For the purpose of this study a number of aspects of it are emphasised. The pre-constructed categories of thought encompass higher-order thinking processes that are a necessary but not sufficient component of philosophy. Children's actual abilities in thinking, including their abilities for abstract - philosophical thought are established and defined. The children's potential abilities in philosophical thinking can also be defined. However, for philosophy to be philosophy as discussed in chapter one, 'deep thinking' also necessitates topics with the potential for depth of meaning. The interest shown by the children in the themes of origin, meteorology, cosmology and ethics is evident. The educational importance of children finding a voice

both orally and through other media is argued for. Encouraging reflective practice for both children and teachers is part of this argument.

Chapter seven brings the thoughts of the children and the chosen natural philosophers in concert to discuss what their commonality and their differences are. Instructive parallels are established and the hypothesis and questions set out in the Introduction of the thesis are re-visited and discussed in the light of the findings established in chapter three, five and six. The implications for education are discussed and deliberated on within the understanding of the selected educationalists in chapter one.

Chapter 7:
Reflections, Conclusions & Recommendations

7.1 Introduction

In this concluding chapter of the thesis, the main findings of the central chapters on the two foci of the study: the thinking in ancient proto-philosophy and the children's thinking in the Thinking Time sessions are brought in concert. Chapter seven presents synoptically the evidence gathered from the earlier analyses relevant to the overall hypothesis that the study set out to explore. Parallels are summarised under the three areas outlined in the thesis: topics, thinking and critical spirit. The enquiry is extended to include Aristotle's comments on natural philosophy. This is followed by a discussion on the implications emerging from the conclusions of the research for two domains, Thinking Time and the broader educational field with particular emphasis on early childhood education. How the research deepens our understanding of Thinking Time is presented and how, it also in a small way, expands and complements a social constructivist approach to education. Recommendations based on the implications of the study bring the thesis to a close.

7.2 Summary of Evidence

The aim of this work has been to explore and test the hypothesis that children's thinking, as displayed in Thinking Time, has significant parallels with the thinking of a selected group of Ionian philosophers who played a decisive role in inaugurating western philosophy. A considerable amount of data has been generated by the research into the lives and thoughts of Thales, Anaximander, Anaximenes and Xenophanes and by the twenty-four Thinking Time dialogues of the children. The evidence from the data on the possible parallels will now be tested to determine if the hypothesis can be shown to be tenable.

7.2.1 Topics

The significance of the natural philosophers is that they established, in western society, the human capacity to explain the universe through some

mode of rational enquiry. In the review of myths in chapter two the imaginative ability to explain existence through story is displayed. Myths tell of the 'what' and 'how' of existence but as stories they are not subject to developing argument or investigation. It was Thales and his contemporaries who took the 'what' and the 'how' and moved explaining existence to speculation. As has been established in chapter three, the chosen philosophers sought to explain the *principium*, the original matter from which everything evolved.

Thales claimed the *principium* was water and that the earth was floating on water. Earthquakes were the result of the earth rocking on water (DK11A15). Anaximander did not accept that the original matter was a substance present on earth but rather it was unlimited, boundless and indefinite. Anaximenes named air as the original substance (DK12A30) and Xenophanes reasoned earth to be the source of all things (DK21 B27).

There are striking parallels between the philosophers' concepts on origin and those of some of the children. A child suggests the earth is floating on water (script 1) and another that 'before everything was just air' (script 7). The idea of an indeterminable substance referred to by a child as 'magic stuff' (script 2) is also present in the dialogues. A child in first class is clear that whatever the original material was, it must still be present on earth today (script 18).

Anaximander is the philosopher who wrote on the origin of humans and life form. His theory that human life evolved from water and particularly from fish-like creatures (KRS 135) also finds credence with a child in first class who claims life began in water (script 18). Other children accept the notion of an evolutionary process ' animals evolved into people' (scripts 10); 'I know who we… we really are cavemen cos cavemen were there first' (script18). In keeping with 'magic stuff' (script 2) being the source of earth, it is also suggested as the source for people. Some of the children in first class also argue for the possibility of life and existence on other planets (script 18). Anaximander thought other universes were probable because of his theory of eternal motion (DK 12A, 26) (p.83 this thesis).

Xenophanes' preoccupation with clouds finds resonance with the children. Xenophanes concluded both the stars and the sun and the moon came from clouds and that the sun was indeed ignited cloud (DK21, A32). The substance of rainbows was also thought by him to be clouds and he suggested a new sun comes into being every day and that there were many suns (Taylor, 2003, p.173). Clouds dominate the senior infants' discussion on the weather. They connect clouds with rain, wind, the sun and fog (script 11). Some of the junior infants also suggest that clouds are the fuel for the sun (script 3) but they differ from Xenophanes by claiming the clouds are born from the stars whereas Xenophanes suggested the stars came from clouds. The children also take the role of clouds a step further by asserting their ability and responsibility for changing the seasons (script 4).

The wind for both Anaximander and Anaximenes is the source of many weather features. 'All things are caused by wind' (DK12, A23), Anaximander claimed and he lists these as rainfall and lightning with escaped wind responsible for waterspouts and hurricanes. Anaximenes agreed with Anaximander on the role of air or wind in the formation of clouds, rain, hail and snow (DK 13A 17). Xenophanes cited the sea as the source of rain and wind. The children in first class consider wind as moving air that makes the clouds move. They also refer to rainbows, thunder and lightning and tornadoes. The idea of a bonfire in the sky is mooted and rejected by others on the grounds that it would ignite the clouds (script 19).

Although it is only to a limited degree, the children show more differentiation in thought on ethical matters than the philosophers did. Cicero, as quoted on page 90, highlights how the views of the proto-philosophers were restricted to natural phenomena. They were not concerned with ethical matters as we understand them, but their concern with nature did encompass notions of good and truth. Certainly Xenophanes comments on the inability of humans to know the truth (KRS 186) and thus one can conclude he reflected on what truth is or is not. Thales also reflected on such matters as to what it means to be alive and concluded 'all things are full of Gods' (DK11A 22). To be alive for Thales means to have a soul and he concluded that magnets

have souls because of their ability to make other things move. All of the children engage with the ethical topics of goodness and truth, although there are differences between the class groupings. The children in junior infants in general display a mythic approach in considering truth and goodness. As noted in chapter five these children had more to say on the ethical issues than any others. There are signs of these four-to-five year olds beginning to differentiate within the concept of people being both good and bad (script 8). Both the senior infants children and the children in first class view intention and action as significant factors in understanding what is good and they also display a significant capacity to deal with abstract concepts such as happiness (script 23). The children, as is part of their Christian faith, adhere to the concept of God and to only one God.

7.2.2 Processes of Argument

This section is of great significance to the thesis, as philosophy to be philosophy needs to show reasoning. The topics above could be discussed in many fora without ever being philosophical. When reasoned argument is introduced to discussing the topics, they then take on a philosophical nature. The processes of argument by the philosophers and the children are compared and contrasted to establish their similarities and differences.

Thales, Anaximander, Anaximenes and Xenophanes made a distinct contribution to the development of thinking by reasoning and arguing as a means of knowing. They observed, deduced, explained, reasoned and offered arguments. Anaximenes' argument for air as the original substance is a prime example of this (p.76). He defined the nature of air and explained how it takes different forms to become fire, wind, cloud and earth. Xenophanes in his argument on the alternative dominance of earth and sea used evidence of seashells and fish fossils found at Syracuse to support his theory. Anaximander concluded man was originally born from other creatures because unlike man other creatures are self-supporting earlier than the human species. This deductive argument is based on the knowledge that a human infant could not survive on its own and therefore human life must have

224

initially been sustained by other life forms. Having claimed that the earth is floating on water, Thales developed his argument to explain earthquakes. Certainly the movement of an earthquake replicates the movement of objects being rocked while floating on water. The rules of thinking established by Aristotle and deliberated on later in this chapter are not found in any abundance before Aristotle. However, there are signs of metacognition in a fragment from Xenophanes quoted on page 92 and reproduced here:

> The gods have not revealed all things to mortals
> from the beginning; but by seeking they find out
> better with time (Stobaeus 1.8.2: fr. 18 [KRS 188];
> Taylor 2003, p.78).

As stated in chapter three, Xenophanes emphasised the need for time and reflection to think. He was aware of thinking.

The children in their dialogues use a variety of thinking structures as analysed in chapter five (see graph page 136 and chart page 137). As well as making statements, the children justify, define, infer, question, deduce compare and reflect. As outlined on page 147 there are differences within the class groupings and the emerging ability to reflect is viewed as crucial to developing other higher-order, rational thinking processes as part of philosophy. For example 'I think I agree with Luke...' (script 15) suggests pondering, indecision that needs further thought. The demand for evidence or the acknowledgment of lack of evidence is a significant factor in many of the discussions. When discussing living and non-living things a child comments that dogs and cats are alive because 'cats and dogs can talk' (script 12). Or 'the stars are really bigger than the sun or moon just further away' (script 14). Questions are present in contributions such as 'why did God make us anyway? Was he bored? Was he sad?' (script 18). There are differences between our access to the thinking of the children and to the thinking of the philosophers. Our knowledge of the philosopher's thinking comes from the surviving fragments of their individual thoughts, while the collective arguments of the children are from transcribed dialogues. This is necessary given the kind of evidence considered in both cases in this research. The philosophers

individually developed their theories while the children collectively develop ideas, concepts and arguments as retold in the narratives in chapter six. The children's thinking is more fluid and less systematic than that of the philosophers. However, the evidence of direct dialogue in the conversations of the children is not present in the work of the philosophers. Of course the children are facilitated and encouraged in this by their teachers and by participation in a community of enquiry.

Despite these differences, there is clear evidence of a shared interest in a number of topics, and most importantly, in ways of reflecting on them through rational thought. These findings justify this thesis by establishing valuable connections and parallels between young children's philosophical reasoning and ancient proto-philosophy. The third element of commonality from which instructive parallels can be drawn is the philosophers' and the children's approach or critical spirit.

7.2.3 Critical Spirit

In chapter three the natural philosopher's way of being is cited as possibly the greatest gift they gave to the generations after them. This is difficult to measure, as it is speculation on my part based on reading the fragments. However, there is no record in the testimonia and fragments of bitter disputes between the natural philosophers and it would seem to me difficult to read the fragments in any way other than reasoned, reflective and open. Like poetry, the words and structure of the fragments convey a mood that holds and captivates a reader. This openness is a necessary element of philosophical thinking because philosophical thinking entails engaging with new ideas, looking at issues in different ways and a willingness to change one's mind if the argument demands it. The natural philosophers concentrated on the questions of existence that had been the subject matter of the myths that preceded them. They speculated about the origin and the function of the universe and the mysteries of nature. The children also engage with similar questions. Unlike Socrates, who directed philosophy to the everyday life of people, Thales, Anaximander, Anaximenes and Xenophanes focused on

physical existence. There are other differences between Socrates and his predecessors, particularly in approach to argument. Socrates offered a rigorous method whereas the natural philosophers presented their arguments in a more open, speculative manner. They announced their claim and then put forward evidence to support it and there is a consistent reasonableness in reading different versions of the translations of the testimonia. They read calmly and instil in the reader a sense of musing and wondering. There is no use of angry or demanding language until one encounters Herodotus' dismissal of Anaximander's attempt at a map of the world (p.85). The children who participated in this research also reflect this gentleness and tolerance in their dialogues. There is an acceptance of the validity of many views. In the writings of Plato on Socrates everything is questioned and turned back upon the speaker with greater rigour than with the natural philosophers. Certainly the conversations of the children have a lot more in common with the manner of communication that characterized natural philosophy than that associated with later philosophy. Children also tend to muse and wonder aloud and make claims that they attempt to argue for. This is not to put a value judgement on either; rather the object is to note the similarities and differences in approach. As their name implies, the first philosophers theorised on natural phenomena. Science evolved from their subject matter and philosophy evolved from their approach to understanding, although it was to take many centuries before the two became separate disciplines.

7.3 Summary of Findings

Undoubtedly, there are remarkable similarities and parallels between the thinking and concepts of the natural philosophers as reviewed in chapter three and those of the children presented and analysed in chapters five and six. However there are also differences. The children deal with the topics in an unsophisticated manner compared to the natural philosophers as commented on in chapter six. Some of the dialogues are more distinctly philosophical than others. In general the topic of *Adam and Eve* produced both mythical and philosophical conversation whereas *The First People* was dominated by philosophical speculation. *The Weather* also leant itself to philosophical input

and *The Seasons* encompassed mythic and philosophical contributions. The subject of *Earth* and *The Cosmos* stimulated philosophical enquiry and the conversations about the ethical subjects of *Truth* and *Good and Evil* were dominated by philosophical thought. The children were engaged in philosophical enquiry for most of the topics with the exception of *Adam* and *Eve.* This is not to say that some contributions in particular scripts could not be defined as mythic but the general tone of the dialogues is philosophical.

The philosophers of Ionia demonstrate a greater ability in thinking than the philosophical children. There are differences between the children and the philosophers notably in the philosophers' capacity to develop coherent theories through bringing together numerous thoughts on related matters for example Xenophanes theory on the continued existence of earth. The children put forward ideas, some of which correspond with those of the philosophers but there is little evidence of them extending their concepts to the level of theory. I have drawn together the ideas of the children and those of the philosophers that concur. As has been stated this is not to conclude that the philosophers were childlike in their thinking but rather to suggest that these topics have fascinated and intrigued humans from the earliest times. The myths in chapter two demonstrate the universality of this. What is being claimed is that the topics of origin, the cosmos and meteorology hold an interest for all people, including children, and of importance for this study, they are subjects with the potential for eliciting deep thinking.

The thinking of the philosophers and the children is constrained by a shared limitation - a lack of knowledge. In the case of the philosophers the knowledge that science was to discover after their lifetimes was clearly not available to them while in today's world, although that knowledge is available, the children have not yet acquired it. It is speculated that it is not the topics alone that lead to similar conclusions but when combined with similar reasoning skills they do. As remarked in chapter one (p. 20) it is when topics and processes both have potential for depth that philosophical thinking can take place.

Significantly, both research populations display a similar critical spirit and way of being in the evidence tested in this thesis. Therefore it can be argued young children have three parallels with the natural philosophers, namely their interest in origin and natural phenomena, *some* processes of arguing and their way of being.

The implications for education of these common factors are deliberated on later in this chapter. But first I will further question whether these three connections and parallels are enough to establish that young children are in fact natural or proto-philosophers. A crucial question for this thesis is can Thinking Time be validly characterised as a philosophical process? The evidence in the research is strongly indicating that yes it can be but given its significance to the aim of the work, a further testing of the evidence through the rules and procedures for thinking established by Aristotle is undertaken.

7.4 Thinking Time as Philosophy-Further Evidence

Do the children know and are they conscious that they are engaged in philosophy? Have they a concept of philosophy? If they have not, can they be philosophical? If the teacher who is modelling and facilitating the conversation knows that the intention is philosophical, is this the distinguishing factor? If, philosophy means 'a love of wisdom', and if a child or adult is sincerely engaged in trying to find meaning, then whether they are aware of the word 'philosophy' or even have a concept of it is immaterial. Of course in metacognitive terms it is important, but for the initial process to take place, it is not. In any case there is an argument to be made that the initial process of Thinking Time needs to take place and be engaged in for a metacognitive understanding to be realised. Aristotle's quotation (p.68) is helpful in reflecting on this. He was initially quoted as a support for the connection between myth and philosophy but more meaning has been discovered in this particular quotation as the thesis has evolved. Given that it now has more significance for this research than initially envisaged, it is worthwhile to contemplate the full quotation again:

> People both now start and in the beginning started to do philosophy because of wonder. At first they wondered about the obvious difficulties and then they gradually progressed to puzzle about the greater ones, for example, the behaviour of the moon and the sun and stars and the coming to be of the universe. Whoever is puzzled and in a state of wonder believes he is ignorant (that is why the lover of myths is also in a way a philosopher, since myths are made of wonders). And so, if indeed they pursued philosophy to escape ignorance, they were obviously pursuing scientific knowledge in order to know and not for the sake of any practical need (Aristotle, *Metaphysics* 1.2 982b 12-21; in McKirahan, 1994, p.69).

There are two elements of Aristotle's comments that are important in coming to understand Thinking Time. People who dwell on wonders and puzzlements are, already in a way, philosophers. Equally if the intention is to 'pursue scientific knowledge in order to know' this raises the activity above the utilitarian needs to survive. It becomes a mental activity for the love of knowing, the love of wisdom, in a word, philosophy. Scientific knowledge in the time of Aristotle was a much broader concept than science is today. Science encompassed many areas of learning and was more in keeping with what is now called education. In reading the scripts there is little doubt that the children engage in the dialogues with the intention of understanding. There are no signs of sophistry. Lipman complements this point when he remarks that children do not own anything except possibly their clothes or toys and are therefore free from the vested interests of adults. The children are philosophical in that they pursue knowledge out of a desire to know. The question still remains: are they being philosophical in their dialogues or are they just emerging in discussion that we strain to interpret as philosophy? If Thales, Anaximander, Anaximenes and Xenophanes can be called philosophers, an understanding of their achievements will help to resolve the dilemma of whether or not children are and can reasonably be called philosophers.

230

Aristotle referred to the pre-Socratic scholars as *phusikoi* and their activity *phusiologia,* 'study of nature' (Barnes, 1987, p.13). The study of logic was invented by Aristotle and he claims that no one before him had attempted to make explicit and systematic the rules and procedures which govern thought. It is Aristotle who acknowledges the significance of the early thinkers and in his first book of *Metaphysics* he gives a short account of the history of Greek philosophy. He views the natural philosophers as offering explanations and giving causes. Aristotle himself holds that there are four different types of explanations or four causes and he concluded all four had been slowly discovered, one by one by his predecessors (Barnes, 1987, p.16). Certainly in reading the testimonia there are examples of the material cause, the efficient cause and the formal cause. The material cause is that of which something is made, the efficient cause that which causes something else to be and the formal cause that which gives something form. The fourth cause, the final cause is the purpose of something and, for Aristotle, the final cause of human existence is happiness or flourishing.

Much of the work of the natural philosophers read for this thesis features examples of the first two. The search for the original substance, the *principium* with which Thales and the Ionian thinkers are most associated, falls within Aristotle's first cause. Equally Thales' explanation for earthquakes (p.75) and Anaximenes's account of clouds being made from air (p.76/77) are examples of the first two causes. The quotation from Anaximander (p.83) on the destruction of one thing causing the generation of another is an example of a formal cause and Xenophanes's fragment on the search for truth (p.92) an illustration of the final cause. There is little in the way of final causes in the work of the natural philosophers, although there is more in the work of the thinkers who came after the Ionian four on whom this work is focused. Of course, the work of Heraclitus, Pythagoras, Parmenides, Empedocles and Anaxagoras would have been of interest to Aristotle also. One can accept Aristotle's judgement of his predecessors and equally acknowledge the importance of the conceptualisation and organisation of thought introduced by him. A suggestive analogy here might be to assign to Aristotle the role on pre-Socratic thought that the teacher/ researcher does with the children's

231

concepts when facilitating Thinking Time. Aristotle conceptualised the work and took it further but the search for explanations by the early philosophers made it possible to advance. Examples of the material cause, 'before the world was made, was just air' (script 5) and the efficient cause, 'I think that he made dinosaurs and then when they got out from the water and went onto earth, their DNA spread into the world and then we came' (script 21), also feature in the children's scripts and there are even a few examples of the final cause, 'truth is good and you have to tell the truth because then you are good' (script 7). In the main, however, most of the children's conversations can be categorised into Aristotle's first two causes.

7.5 Conclusion

This thesis set out to enquire if there were meaningful parallels between the thinking of the selected proto-philosophers and the selected children on topics of natural phenomena and ethical matters. Aristotle acknowledged Thales, Anaximander, Anaximenes and Xenophanes as the first philosophers. This thesis has established strong parallels and direct links between the work of the first philosophers and the dialogues of the children and therefore it seems reasonable to claim that the children are indeed philosophers in the way that the first philosophers were. The hypothesis of this thesis is therefore validated. In the process of the investigation, the questions of the thesis have also been clarified. Thinking Time *can* validly be characterised as a proto-philosophical process. Before proceeding to discuss the implications of the findings, a reflection on the strengths and limitations of the research is appropriate.

7.6 Strengths and Limitations

The work is limited in what it set out to do. It is not a study of the Ionian thinkers of the kind that would be undertaken by a specialist in classics or in ancient philosophy. Nor does it seek to intervene in any debate about recapitulationism. It could have been equally viable to take a different approach to this enquiry and cover the evolution of philosophy up to the time

of Socrates. Not all pre-Socratic philosophers are included. The study is based on a limited research population both with the children and with the philosophers. The Thinking Time dialogues are from three classes of children rather than a larger population. The study was not involved in collecting and analysing data from a large statistical sample or testing the children involved against national or international standardised tests. Nor are individual children tracked to show their separate development in thinking. The work could equally and valuably have been focused on early childhood education but instead chose to concentrate on a narrower aspect of practice situated within early education.

This thesis has demonstrated that the unlikely-seeming study of ancient proto-philosophy can provide useful guidance to current pedagogy. We are entirely accustomed to trying to resolve our pedagogical problems by means of empirical studies that draw on psychological theories, that a project like this one may seem initially rather exotic. Our reliance on empirical studies is, of course, well founded, but it is worth exploring unusual intellectual pathways when a plausible hypothesis presents itself. Such studies as this do not build on well-developed conventions, but occasionally may turn up useful guidance for our everyday practice. Although the research is based in three particular Irish classrooms, the findings are relevant to the general understanding of young children's thinking. As Dunne has commented in a different context;

> If these studies, with their deep embeddedness in a particular milieu, renounce the generalising ambitions of wider-gauge research, they are not on that account condemned to a narcissism of the particular. To the contrary, when they are well done, they possess what might be called epiphanic power: in other words, they disclose an exemplary significance (Lovlie, 1997) in the setting they depict so that it proves capable of illuminating other settings (1999, pp707-719).

I think the results of this study have in significant degree justified its unusual methodology. The study is original, opening up – through the

reference to pre-Socratic philosophy – an area of discourse that is rarely if ever appealed to in work on early childhood education. The value of this move can be defended in terms of philosophical hermeneutics. And it is in keeping with the spirit of recent movements towards interdisciplinarity and interculturalism.

The primary aim of the work was to add to our understanding of Thinking Time as an educational practice and of the kind of thinking that children exhibit in and through it. The strength of the thesis is in its focus. It does not diverge from exploring the hypotheses that children's thinking exemplified in and facilitated by Thinking Time has significant parallels with the thinking of the first known Ionian philosophers. It is a timely contribution to education with recent curriculum developments and emphasis on metacognition, children's participation in the educative process and the importance of citizenship for children.

This thesis has shown that young children are capable of engaging in natural philosophy. This conclusion has been reached through analysing the work of selected educationalists in chapter one, the concepts of Thales, Anaximander, Anaximenes and Xenophanes in chapter three and the dialogues of the children in chapter five and six and has important implications for both Irish and other classrooms.

7.7 Implications of the Research

There are implications for three domains within education arising from the findings of this thesis that need further exploration. Firstly, having established Thinking Time as a philosophical process, how the research adds to the continuing practice of it in schools and how such practices contribute to a social constructivist approach to teaching and learning are discussed. Secondly, the further implications for the teaching and learning of young children are reflected upon. And, thirdly, the possibilities for further research are outlined.

7.7.1 Thinking Time

The implications of the findings for Thinking Time and for the broader debate on the feasibility of doing philosophy with children emerge from the three parallels researched in the thesis. The topics discussed by the children indicate their interest in and curiosity about natural phenomena. Eight topics, six of which relate to natural phenomena and two to broader ethical issues, were selected for this study. Many similar topics such as individual planets, the sky, rainbows, volcanoes, the seas, mountains, rivers, birds, other animals, all the species of fish etc. and other ethical matters all have the potential for deep discussion in a philosophical context like Thinking Time. Equally, encouraging and scaffolding children to develop logical forms of thought through dialogue is shown to be feasible. The children displayed competencies in offering a reason, inferring, using an analogy and giving judgements as part of dialogical enquiry. Potential abilities were evident in the children's questions, their ability to make a comparison, summarise and hypothesis. Facilitating this potential is important for developing the philosophical ability already present in children. Teachers firstly, need to be aware of this potential and to be educated in developing it both in general class time and in philosophical discussion. However as remarked by Aristotle, philosophy begins in wonder and Thinking Time, while encouraging *'logos'* must attempt to sustain the wonder, curiosity and imaginative abilities of children. Underpinning the topics and the thinking processes that *both* lend themselves to deep thinking is the developing of a disposition or what I have called 'critical spirit'. The modelling of this critical spirit by a teacher and creating a climate in his/her classroom to facilitate such dispositions is viewed as important in this study. These are implications emerging from this research for the further development of Thinking Time or other philosophy programmes in primary schools.

However, in coming to an understanding of proto- philosophy through analysis of the work of the chosen philosophers and through a deeper appreciation of the difference between it and academic philosophy, that is, philosophy from Plato onwards, a new insight has been gained into Thinking

Time and philosophy with children. In the process of analysing the work of the first philosophers, a distinction between them and academic philosophers has become clear. With Socrates' rigour and Aristotle's conceptualisation and the formulation of explicit and systematic rules for thinking, significant change occurred. In the course of this research, my initial claim has been refined and my understanding of what the children are engaged in when doing Thinking Time has become more focused. What the thesis has shown is that young children can be natural or proto-philosophers. This is not to suggest that children cannot engage in philosophical discussion beyond natural philosophy only that this thesis has not established it. Young children can now be acknowledged as proto-philosophers in the same way as they can be acknowledged as proto-historians or proto-mathematicians.

To be a recognised as an historian one has probably studied to a higher degree level in the field of history, and researched and published in the field. In teaching a topic historically, a teacher will guide the children through certain processes and skills. By and large the children would not be able to do this themselves without their teacher's input. The children are not independent nor do they have the necessary mastery of the field. They are playing at being historians. I use 'playing' here to elaborate a very important pedagogical approach and not as playing is sometimes viewed as frivolous and insignificant. So the argument evolves like this; if children are 'acting as' or 'in a way' being geographers, artists etc. then they are as entitled to be called philosophers when they engage in Thinking Time. The key to this is that the children may begin the process through their wonder but in most cases it takes a teacher to develop the potential that appears in that initial question or wonder. This is the major difference between the natural philosophers and the children. The natural philosophers were the knowledgeable others and learned from each other as equals. Children also learn from each other as equals but it is the presence of a teacher that ensures development.

Vygotsky recognised the human capacity to learn and to teach as significant human attributes and recognised education and schooling as

central for social / cognitive development. The role of the educator is crucial as Vygotsky argues that the only 'good learning' is that which is in advance of development (1978, p.89). Thus, teachers need to be educated in how to facilitate Thinking Time and to understand the educational thinking underpinning it. This claim is based on the argument that philosophical thinking is different from other thinking that usually takes place in schools and has a value in the education of children. It also complements other good practice in schools by acknowledging and encouraging abstract thought. Many programmes and curricula emphasise such matters as the child's family, their pets, birthdays and other issues very relevant to the identity and immediate life of the child. These are to be welcomed as important in children's lives. However, left at this it is a limited interpretative framework. As Egan (1992) has shown this does not make many demands on the imagination. Certainly it encourages articulation and awareness on the part of the child, but it can limit the opportunity for higher-order thinking. Again evidenced in the writings of Donaldson, Egan, Burman, Matthews and others cited in chapter one, children at an early age have some ability and potential to think in more complex and abstract ways also. The research presented in chapters five and six can be understood from a social constructivist standpoint in three ways. Firstly, it demonstrates young children's interest in many universal questions of the world and of the human condition. Secondly, it shows how these universal questions also have a local perspective and thirdly that in conversing and reflecting on these questions together, the children exhibit a range of abilities in a selected number of abstract thinking functions and a potential in others. As has been emphasised in chapter one (p.20) for philosophical thinking to take place *both* the topics and the thinking need to have the potential for depth. Philosophy, in a particular way, encourages thinking that encompasses higher-order and critical thinking and also acknowledges that many questions do not have one 'correct' answer. This research can encourage teachers towards more engagement with 'abstract' topics and styles of discussion and thereby to be less dominated by the emphasis on immediate sensory stimulation – valuable though this emphasis is – as prerequisite for lessons. Any curriculum that does not include topics and questions of generic human interest is lessening the

opportunity for cognitive and social development. I am consciously linking the social and cognitive here as learning in a community of enquiry either through processes such as Thinking Time or in a general class/ school community has the advantage of stimulating both social and cognitive growth. When children learn together, pursuing questions collectively with their peers and teacher, the human social bond is strengthened. A trust emerges alongside a sense of identity as a learning community. This in turn strengthens the basis for further cognitive growth. It is, in a way, another demonstration of Vygotsky's theory of learning leading development. In this case, it is social development that follows the learning through dialogue.

One final implication of this research for the further development and expansion of Thinking Time, and programmes for philosophy in primary schools, has to do with dialogue. The Greeks viewed philosophy as an activity which is intrinsically dialogical and that demands an-openness to the argument. Gadamer refer to this engagement as 'the mutuality of participation' (2000). Dialogue and dialogical teaching is greatly encouraged in many curricula throughout the world. It seems both pragmatic and worthy to implement a process of philosophising in order to implement such curricula principles.

7.7.2 Early Childhood Education

There are broader implications arising from the research that are particular to the age group of the children in the research study, that is children in early years education. The findings of this thesis based in early years classrooms have implications for curriculum, pedagogy, assessment, and for policy in early childhood education. Each of these areas will now be briefly discussed in the light of the research findings.

Having children involved in argument has significant sympathisers among those with expertise in early years pedagogy. Kathy Sylva, Professor of Education at Oxford University, asserts that important learning in pre-school

238

includes learning the conventions of discourse. As quoted (p.111) she points out the value of including, as a curriculum objective, the articulation of an argument. Christine Pascal and Tony Bertram, also writing in Abbott and Moylett, lend support to young children being involved in dialogical processes. Referring to Lipman's work they claim that children who are encouraged to express preferences and opinions, to articulate their viewpoint and to have it acknowledged, and to be given credence by peers and by their educators, are more likely to acknowledge that there are alternative views held by others which are equally valid and should be given respect. They continue 'this understanding of multiple perspectives has been shown to reduce classroom tensions and advance learning achievement' (p.100). This claim is further supported by the research of Osler (2000a). Thinking Time offers an opportunity for children to learn and practise dialogical skills and to witness them in action through modelling by their teacher and peers. Children can also learn that not all questions have one 'right' answer and become aware that while there is a set body of knowledge, there is also the unknown, the yet to be negotiated understanding of many things.

Language and communication are corner stones of any early years curriculum. The *Irish Primary Curriculum* (1999) places a central and strong emphasis on language and requires, for the first time in the history of the state, that oral language be given a place within the Irish curriculum. Dialogical processes are important if not essential to enacting the aims and objectives of the Irish and many other curricula. In turn, dialogical processes assist in helping children access metacognitive processes. Coe (1984) claims that language creates distance between the self and the object and ultimately transmits realities into abstractions. Learning and practising dialogical skills is therefore seen as essential to any education system that values good thinking. Dialogical skills assist a child to participate more fully in his/her own education. Increasingly in early childhood education, the child's point of view is being sought in assessment as exemplified in the work of Margaret Carr in New Zealand where children co-construct their own learning stories. So Thinking Time has implications for young children's learning in constructing an

argument, expressing views and opinions, engaging with the views of others and for curriculum assessment and classroom management.

Dialogue is viewed as an essential element of philosophising (p.21) and is the key to Socratic teaching. Kanter, Green, Bradley and Lin (1992) in researching group time routines in a classroom of 3-4 year olds in the USA found that dialogical practice taught the children how to be 'conversationally appropriate' and concluded that learned ways of participating have consequences for students in both present and future moments of life within schools. Group work and paired work is encouraged in early years classrooms both for social and cognitive reasons. Vygotsky argued that collaborative structures of learning lead to more abstract thought processes (1978, p.90). The social gains in terms of sharing, turn-taking co-operation etc. are also important. However the question of preparing and teaching children *how* to work together is not always so clear. The modelling by the teacher and the practice by children and teacher of dialogical skills in Thinking Time greatly assists this. Dispositions for learning are enhanced from engaging in dialogue. Lilian Katz remarks that dispositions are a very different type of learning from skills and knowledge: ' they can be thought of as habits of mind, tendencies to respond to situations in certain ways' (1988, p.30). Good habits of mind need to be established in the early years for children to benefit from education. Resnick, quoted in chapter one on the nature of critical thinking (p.20), comments that much of learning to be a good thinker is learning to recognise and even search for opportunities to apply ones capacities. She added 'dispositions are cultivated by participation in social communities that value thinking and independent judgement' (1987, p.42). By laying the foundation for participation, interest, involvement, persistence, communication and responsibility in the early years we are setting up structures for lifelong learning. Thinking Time can assist in developing such dispositions.

The principle of participation runs through the United Nations Convention on the Rights of the Child (1989). Audrey Osier and Hugh Starkey assert that despite the CRC and the work of many educators committed to democratic

learning, the entitlement of all children to an education where their views are taken into consideration (Article 12) and which is based on democratic dialogue is not yet realised (2005, p.137). In *Changing Citizenship, Democracy and Inclusion in Education* (2005) they identify a wide range of implications of the CRC for classroom organisation, curriculum and pedagogy including the pedagogic principles of dignity and security, participation, identity and inclusivity, freedom and access to information (p.143).

The most striking common features which I detect in the testimonia of the natural philosophers and the scripts of the children is their tolerance in thought and their critical reflection. In chapter three I suggest that this is the greatest gift of the natural philosophers to education. Education has a crucial role to play in encouraging and engaging children in being reflective citizens and can serve democracy and the individual well. Philosophy more than any other subject can assist this process because of its openness to possibilities, its willingness to be 'wrong' and its determination to look for alternative answers. This thesis establishes young children's abilities to participate in philosophical dialogue and by so doing has implications for possible changes in curriculum, pedagogical approaches and educational policy. The natural philosophers of Miletus belonged to a social structure that encouraged public discussion and the voicing of opinions. Schooling should offer similar opportunities from the earliest years.

7.7.3 Research implications

This investigation into the thinking of young children in Thinking Time and the parallels with the thinking of the proto-philosophers has established children do have a capacity and disposition for philosophical speculation. A possible follow up study might try to clarify the fate of this interest in natural phenomena in subsequent primary schooling. Could it be argued that this is just a phase in early years that is properly superseded when children later become more 'realistic' and scientific in their thinking? Or is it something that deserves and needs to be cherished and cultivated? If so, what form would

this take? Is the seed of philosophical speculation that has been identified in this research capable of continuing to be developed in a more acknowledged philosophical direction? These are all possible lines of further research that could in their own way extend the findings of this present thesis and contribute to our understanding of how children think and make sense of the world around them.

Another possible field of research could be to test the transfer value of Thinking Time to children who regularly engage in it. Does it tend to make them more actively curious or creative or critical or 'divergent' in their thinking in official curricular areas e.g history or maths or science? Is there a philosophical spirit that can be nourished and that, when nourished, will in some observable way impact on children's approaches to their education more generally? Such a study may well need a control group and an experimental group to test any such hypothesis.

7.8 Recommendations

The investigation undertaken in this thesis had proven to be an informative journey. It gives confidence to the practice of Thinking Time by establishing it as a philosophical process. The importance of philosophical thinking for developing 'deep' thinking is argued for and the benefits of this for education have been outlined. Arising from this research and the implications of it, a number of recommendations are proposed. Firstly, Thinking Time should be encouraged as a more main - stream practice in primary schools and student teachers and practicing teachers should be offered modules and courses on the how and why of implementing philosophy with children. Secondly, this thesis is a step in a new direction on the journey to understanding Thinking Time. Having found informative parallels between the thinking of the children engaged in Thinking Time and the thoughts of Thales, Anaximander, Anaximenes and Xenophanes, it seems probable that comparable and different instructive parallels could also be found in the work of Heraclitus, Pythagoras, Parmenides, Empedocles and Anaxagoras. It is recommended that the conversation between pre-Socratic philosophy and education, begun

in this thesis should be continued and further developed. Thirdly, the research possibilities outlined in the previous section should also be pursued as they would add to the broader educational understanding of children and their thinking.

7.9 Conclusion

Thinking and education are integrally linked. If schooling is to serve to create a critical citizenship then our children need to participate in wondering, questioning, reflecting, arguing, speculating and hypothesising. Philosophy has a contribution to make to this process. The first philosophers achieved a remarkable new way of knowing for humanity and, as Barnes remarks, anyone who doubts this should reflect on the maxim of George Berkerley, the eighteenth-century Irish philosopher 'all men have opinions but few think' (1987, p.24).

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Script One

Adam and Eve   Junior Infants

T. Where did Adam and Eve live? Did they know where they were? What do you think this garden was like? Were they lonely there or what did they do all day? Did they know they were people?

- I didn't like the snake cos he told the girl to eat the fruit but then she told the man.
- When Adam and Eve went back into the garden God punished them again
- They were happy and the trusted the snake instead of God
- I know what they did all day. They just ate and watched television
- The garden was full of flowers and had a waterfall in the middle
- God was telling a joke because they didn't die yet
- The God with the sword and the wing looked everywhere and then the people started to eat all the fruit.
- When the people ate the fruit, they turned into another one in another life.

T. Did Adam and Eve know they were people? What did they do all day? What was the garden like?

- They liked the garden
- They listened to the God until the snake came and then told them to eat the fruit (.) They went up to the other Heaven where giants live
- There was loads of grass and they had to climb up the tree to get loads of fruit for themselves.
- The lived down in the country
- The snake came so the could eat the fruit and the snake told them to eat the fruit and then they ate it
- God told them not to eat the apples
- (Interjection) – They're not apples Roisin, <u>they're poison</u>
- When God came, the garden was nice

i

T. Where did all the people get on earth? How come there are people all over the world now? How come people are different colours?

- When they got punished, they went down to hell
- The people went up in a Rocket
- God was wrong and they really had to die and then they went up to heaven
- They done a mistake and they didn't listen to God
- The God with the sword and the wings flied of away and then all the people thought that fruit was a seed (.) and then it went growing and growing into a beanstalk.
- The fruit growed love but they didn't listen to God and they thought it was a real fruit and they just ate it

T. How did this world become full of people? How did people have different colours?

- How the people got here (.) all the people made it, God made all the people and God send them to it
- I know how all the people were full of the world because God made all them and everyday he made ten more and he was tired so after lunch he kept on waking
- There was an animal up on the tree and they tried to lie on it and the snake told them to eat the fruit, but then they said O.K. and then they went up but then they must have died.
- There was a ladder on the grass, so they could get up and the ladder was on top of the grass and they could get up on top of it
- God made the people, but then snake said don't eat the fruit, but they did
- God made the snake first and then thee were people, but the snake thought the people were snakes because…

T. Why did Adam and Eve eat the apple? Were they hungry? Was God right to put them out? What happened to the garden afterwards?

- They were eating the apple because they <u>thinked</u> the snake was right because they liked him because they <u>thinked</u> they like it.
- In the garden, they ate the apple because the snake wanted to trick them
- When God said, when you eat the fruit on that tree, I think he meant it and when the snake was trying to trick them, in their minds, they were (   ) And then they just went along and did it
- God was right because the snake was trying to lie to them.
- All the people ate the apple until another apple growed and then all the people ate a piece of it and broke it in half and then when that happened, they all went home and they made offerings
- The snake was a robot and the snake told them to eat the fruit and they just forgot that God said not to and they just ate it.

T. Was God right to put them out? What happened to his beautiful garden after? Where did so many people come on this world if God only made two people in the beginning?

- God brought them here
- What happened to the garden when they got out from minding it, cos they ate the fruit (.) went to its home and went back to mind it. It was all crusty, didn't know what to do with it, so but a new garden but that was crusty, when it kept on, God came to the last one they had. It was crusty, then God turned it into back, not crusty.
- The grass growed <u>really big</u> and when the grass growed <u>really big,</u> there was a big bubble and it lifted the garden up
- The grass growed, full of grass and they put a bike all the way into the grass and they standed on the bike and then they catched an apple
- The snake

Script Two

The First People   Junior Infants

T. Who made the first people? How were they made?

- The people came from holy God
- God made the world first but the other men made the people
- How the people was made (.) they came out of all the doctors that were making all the people
- A plane went and some giant robots jumped out and made the world
- The trees made the world
- <u>Trees?</u>
- The people made the world first and then the sky
- Holy God made it
- A plane flying across, the middle robot jumped out and…
- God
- God made the world, then the builders
- God

T. When was it made and how?

- People made it 150 years ago
- God made the world and the people and some beds for the poor people
- God made the people, the people ran into the world
- Jesus made the world
- Secret stuff inside their body like magic stuff
- People came from Ireland
- God made the persons and the houses
- God made the frogs
- God made the fish
- God made two people (.) They had babies. They had mostly girl babies and they became more people
- God made the world and God made the people and when the girls had babies, there became more and more and more humans
- Holy God

- Holy God was doing it and the earth made this track and all the sand got wet and then he made a thing and then he just builded a half of a thing
- God made the toads
- God got some pancakes and when they touched the world, the world was made and then it turned into a big circle and then all the builders made the people and their houses
- Holy God made the world and builders made all the houses with sticks

T. How did the people feel? Were they lonely?
- The plane went and there was giant robots on the top and it flew up by a parachute and the parachute got burst and it popped up in the sky.
- God made the people up in Heaven and they came down to earth
- The building men walked over to a plane (.) God made the world.

T. What did the people do all day? What part of the earth did God put them on first?
- God made the people and then they came down from earth and then they were a mammy and daddy
- God and Jesus made the peoples bones first and Jesus made the skin and they came down to earth
- God made the first and then their God made this stuff and he got people made and they had stuff to make the people and they made stuff
- God made the whole world
- God made the whole world
- God made the universe and the people and the people were ghosts

T. Why did God make the people the shape that they are? Did they always look the shape they are now?
- God made the bones first, then the skin (.) God and Jesus
- Earth was trapped and floated in water. Then stuck there
- First men were made 140 years ago

- A frog went on a flying pig and a pig went onto the world and people went on it and God made the world so quick so they couldn't feel on the ground
- God was
- Robots made the world
- God was having a bath and he had a little trap and he banged it and it fell down on the moon and the moon smashed the world
- He made the birds first and he made them eat and they watched television all day
- When people made the world, they had this boomerang and they threw it and built bricks and the world

End

Script Three

Clouds/Weather   Junior Infants

- Clouds were from the ground and then they came up with the fairies who flied up and they got special stuff to stick them up so they'll stay.
- Thunder at night-time when the clouds rained (.) it all came down very fast
- God got the clouds out of something and brought the clouds up when they were down on the ground and they brought (.) God brought them up
- The thunder at night came out and its light
- God carried the clouds up to the sky
- One time God was eating candyfloss and then it fell down
- God made the clouds with the goo and the goo made the clouds stick up
- When the rain bursts in the clouds, it get fuller and splits up and the rain comes down
- Wind comes from...
- The little kids were dead and bounce on the clouds and there was air coming down to earth
- When it's raining sometimes, a storm comes and when the storm comes, its raining bad dreams (.) it gets noisy (.) I think that some people get a fright, because some people think that the skeletons go round in the dark
- Robots made the clouds

T. Where do clouds go to when you can't see them?
- When it starts to rain, the clouds just come up and then it starts to rain and then Holy God (.) she pours it down
- Clouds get there is because people plant trees and then they grow (.) and then God has this special stuff from above and leaves grow
- God ate loads of candy floss and he made all the clouds
- The fairies helping God, planted magic seeds from the trees to grow up and push the clouds up to the sky
- Clouds hit the sun and the sun burn down
- Clouds go up and down along the sky, they got down and they got up

T. Where do the clouds go to, sometimes sky is blue and sometimes it is full of clouds? Where do they go to?

- God have a shower and then the rain comes to Ireland
- The rain comes from God because he has a watering can and he fills it up, when he finished the watering can
- When the clods are gone, they went into a different part of the world
- God sees the clouds and she gets clouds up and all her helpers help her and when she goes the clouds get born from the storm.
- When thunder comes up, God throws thunder down.
- God makes the clouds out of ice

T. Sometimes clouds are white and sometimes they're black and grey, what makes them black and grey?

- I think I know {how the clouds got up there } { Holy God pushed them up} God was eating candy floss and stuck it on (   ) flying up into the sky
- I think it was getting windy, everyone was getting colder and then the rain started getting wet
- When the rain falls, it sometimes rains, God has this tap and it goes on forever and makes the rain come down
- I know how God got the clouds up (.) He got a big straw and stuck it into the ground and put some candy floss and coloured it in white and grey and shooted it up into the sky.
- The sky fell down and someone pushed it up
- First it stays dry, then it gets windier and the windier and then the rain comes down

T. The clouds are always different shapes. What make them different shapes?

- They throw them up
- God gets a watering can and keeps on filling it up and he (.) makes it rain
- God made the plate stick up from candy
- Clouds have (   ) holy God got a parachute up on the clouds and she climbed up and then she took the parachute and fell down
- I think God got a straw and she blew the clouds back up and turning the clouds to rain the grounds covers the up with wetness
- When everybody is going in (.) is sleeping in the dark, they get a fright cos rain is so noise or raindrops hit your window and they might get a fright from raindrops or ice in your window when its raining and I think that when

the raindrops get in your window (.) they just pick them up and throw them because they hit your toes.

- Skeletons make the rain

T. Put hands up

- God gets straws to stick into the clouds and pulls them rights up
- I agree with Sean
- I agree with....
- I think that the clouds rain and they have raindrops and when they have raindrops they turn (   ) and the make drops, so the sun's out they brought along the rain comes down and when raindrops fall, they make the sound of the water. It goes like this (.) and when they do that sound, the clouds go down, when sun burns it hurts your skin because when it's raining it hurts your skin
- I agree with Julieanne cos she said the clouds.
- I agree with Luke because he says the thunder goes up and then down
- I agree with C .....
- Skeletons and pumpkins made the clouds make a thunderstorm
- God got a big huge stick and then he made the clouds of candy floss and then he whacked it up
- I agree with Grace

End

Script Four

Changing Seasons   Junior Infants

T. What makes the seasons change? How do we get summer time? How do we get winter time? What makes the leaves fall off the trees in autumn? What makes the leaves grow back on the tree again in springtime?

- How it changes is because of God
- When the leaves fall off the trees, the branches fall with them
- The snow bring the leaves down
- When the snow comes down when the spring is over
- The summer comes
- People before everyone was born done something, so they could change each time in a separate way
- The wind brought the leaves off
- God keeps on changing the weather too quick
- Snow brings down. The leaves just stay on for a little while and the leaves come and more sun and the leaves just fall down
- God makes the leaves fall down from the tree
- The wind blows the leaves off
- When it is windy, God gets a windmill and turns it on
- God has...
- The astronauts come down when its time to change the seasons. They got this magic spray; they spray it up in the sky
- When it's raining, God is crying
- The astronauts come up to space and colour it blue and grey and green and they put it all over the world and make it windy (.) or rainy or makes a spray or makes it cost or makes it cost as well.
- God comes along and gets something and sprays it and that makes the seasons go by and by and by.

T. How does it become spring or summer? Why is it summer in June or July? Why is it winter in November or December?

- God is up in the clouds and when its winter/autumn he skips on day, and then it winter, then he skips another day, then it's the other ones and I think that's how God done it
- Mother Nature gets a pot and pours water down to make it rain

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- When its summer, God makes it very sunny
- When it's cold and after it comes cold it comes windy and leaves fall off the trees
- The sun goes behind the mountains
- When the caretaker died, he used to change the weather
- When the caretaker died and he was up in Heaven and God changed the world
- When it's lightning, God is moving his furniture around
- When it starts to get windy, the clouds just come up and started to rain and the next day becomes sunny and the next day it really starts to get hot
- Thunder comes; it gets all the houses, when that happens it spring and then winter. I think a fog comes and changes every winter and the sun comes and starts it off and there's dark and thunder
- God comes down and gets something like a wand or anything and just sprays it and then makes the seasons go on and on.

T. How do the days get longer and the nights get shorter? In winter the days get shorter and it gets darker early and in summer the days get longer and it's bright for a long, long time.

- When it snows, God gets a bucket and throws it down on the trees and the leaves fall in.
- God makes clocks turn back and forth
- Seasons go up, when God changes the seasons, it goes up
- When it becomes sunny, God puts on his heating
- God gets the string and he ties the sun onto it and he brings it back up and brings it back down and he gets it off and the sun goes flying up into the sky
- Once me and my brother got a swing ball and he wouldn't let me play with it.
- My friend was playing football and lighting hit a pole and he keeled over and touched the goal and he got electrocuted
- Once my friend threw a ball the window. It hit me and I fell over the banisters
- God (.) the caretaker that died change the seasons and God changed one season and they changed the other seasons
- When God changes the seasons and then he calls the caretaker and then he calls Jesus and then he calls Mary
- Like I agree with Kevin because God gives the stuff to the caretaker
- I disagree with Connor

- I agree with Fiona, she said the wind blows off the leaves
- I agree with Connor
- I agree with Laura because she said whenever its raining, she thought God is crying
- I agree with David
- I disagree with Connor
- I agree with Grace
- I agree with Tony

End

Script Five

Who made the World?   Junior Infants

- God
- Holy God
- Jasus

T. What Jesus?

- Yah, I said that wrong
- Builders made all the houses and God made the rest
- Jesus made the houses, the man and women, the girls and boys and the planets
- Santa maked the world

T. Santa?

- God made the world
- Holy God and Jesus made the world
- Student: What was here before the world was made?
- Joseph and Mary
- Joseph made the world cos he's a strong guy
- Who is?
- Joseph
- No he isn't. (There's a Joseph in the class next door)
- Mary, Jesus and Joseph made the world
- World was floated from different planets to here
- Giant robots made the world
- Jesus and Holy God and Joseph and Mary made the whole planet with their horses
- Horses
- Everyone in the world up in the heaven made it
- Joseph, Mary and baby Jesus and Santa made the world

T. How was the world made?

- The world made the world
- The builders made the world
- The builders, the builders can't fly!
- Holy Jesus made the world with lots of blocks

- Holy God, Jesus, astronauts and Holy God made the world
- They got special stuff like pieces of stuff that was made before somebody else made it

T. What do you mean by special stuff?

- Gold stuff
- God made the world from some clouds for his angles and Mary and Joseph. Joseph was in his cot and Mary was minding Joseph
- God made the world from the clouds and little bits of gold
- The sun made the world
- The robots made the sun with their axes and God made the dark away form the planet
- God made it all
- Santa and God made the world
- Angles did it with their magic
- God made it
- Just a planet there before the world was made
- The world was made (.) the planet was coming off the stars and he won the race
- Horses and men were there first
- The astronauts did (.) well whatever it was
- God made the world
- We had that millions of time
- God was there first
- Before the world was made, was just air
- Horses made the world
- When God was there first, I think they made the planet with seaweed
- If builders made the world, then they could fly in an aeroplane and drop down cement
- The world was just there and God made just the people
- Fish made the world
- Mary and Joseph made the world
- Mary and Joseph made the world

T. What was made first?

- God made the world

- Fish made the world
- <u>Fish</u>
- Holy God made the world

T. What did he make first?

- Hotels
- Holy God made the world
-

T. What did he make first?

- Houses
- She made shops
- God made first schools
- God made the houses first

T. When did God make the world? With what did he make it?

- With cement
- With wood
- Aeroplanes weren't up and made the world
- He made the houses first (.) I mean he made the world with cement
- God made the world
- God made the world with ice
- Ice?
- The world is made of clouds from some muck
- Made from cement and clouds
- Made from grass with cement
- Pigs made the world
- Rockets, aliens made the world
- Robots made the world with axes and then these pancakes came along and ate them all up
- Grass made the world.

End

Script Six

Moons, Stars and Planets   Junior Infants

T. Where does the moon go during the day? What is the moon and who put it there? How does it move? Is there a light in it and what makes it light up?

- The moon is somewhere up in the sky very far away. The wind blows it on different days.
- The moon goes away. I think it goes to bed
- The moon moves to different countries
- When God made the moon and when its day time the moon goes behind the sun and when its night time the sun goes behind the moon
- God made the moon and he moved it to the sun, the sun, the moon, the sun, the moon
- When its night time God moves the moon
- When its night-time God moves the sun down and brings the moon up and in the daytime he brings the sun up and the moon down
- When the sun is roundy and then when it happens thunder and lightning rain it cuts it in half (.) and when it is in half God moves the moon and moves it to be a circle
- The lines goes out from the sun and the light from the sun goes out and it turns into the moon
- I know how the moon and the sun lights up from the aliens, they have huge light, in the sky (.) inside
- When its sunny in B------, the sun goes to another country and then when the suns (.) when the day-time is over, when the sun goes down the light from the sun goes to the moon
- The moon goes up and the sun pushes the moon down and its daytime and the moon goes and the sun goes down.
- The sun lights up because its magic
- The sun is the moon and the moon is the sun and when its morning it lights up and when its dark it stays bright
- The aliens are grey men in the moon and the sun
- Aliens put on the light for the sun inside, when its daytime the aliens put the sun in it and then when its night-time they put the sun back and they put out the moon
- At night-time the sun comes up from after the morning and then it comes up in the afternoon (.) then sun goes to the evening, then it goes up to the

darkness and then it sees the moon and it goes by the moon and then it goes right round

- The sun and the moon comes from God
- I wonder how the moon goes away

T. The planets, why are they out there? Why did God make them? Why can't we see them? Are they out there at all? What would you do if you got there?

- The reason why we can't see the planets is because they're really far away, and God maked them that way and we can't see the planets so there might be a really special reason why we can't
- God made the planets because it was space
- The planets are going through the space
- When people walked in space…
- Why God made the moon is because they can know which one is which (.) like the sun doesn't have two of them but the moon does, when its daytime, the sun comes out, then if you see the prickles coming off, it looks like the moon and then it changes into the moon and dark and if the half moon is gone, that means you call it a half-moon, if its not, its still round that means you call it a full moon.
- I went on holidays the sun did go to where my house was
- When the sun was made, the beanstalk was made and put up and the it came down and then it melted, so it went into a road and then I think it goes from some vegetable, stars, cos' they light up and the moon and when they are there, dark goes over so they can have light.
- The sun is still down in the sky and when it turns dark, the moon is till the sun but you don't see it any brighter (.) like the lines that make the sun bright and sun, they call it the moon
- People landed on the moon to make the moon go up and the sun go down
- The sun goes up when it's dark and then goes down, straight, the straight up and straight down
- The planets come from God, and make the planets move and when its night-time the sun hides behind the moon and when its morning time the moon hides behind the sun and the sun wakes up and there's a magic light and ( ) goes round the sun

T. If you went to the moon what would you expect to find there and would you like to go there?

- I would like to go there and I'd like to go and stop at a special place, where nobody said it and nobody heard of it before and buy some special stuff for
- I think if I went to the moon I think I would see some aliens
- When the storm is coming, when it keeps going, it turns into the moon and turns rock hard and then the moon just stays there, so everybody can see it, and then everybody can sleep so noise comes from dogs afraid of the moon
- I would find aliens on the moon
- The clouds are the same as the stars
- The world goes around to the moon and the sun
- The robots made the world, the sun and the moon
- The robots...
- The robots made the moon and then the planets took down the robots and the sun made the world
- I think that if I went to the sun I would see a bulb lighting up and out
- If I went to the moon, I would see weird stuff like alien something
- If I went to a planet, I'd see a Pokemon and Buitin and Mine
- If I went to see the sun and it was night-time and if you went to see the sun it would be very light from the dark, but you could light it up because there's a candle inside it.
  end

Script Seven

What is Truth and What are Lies?   Junior Infants

- When you're lying, the truth and lies (.) say if that little boy had a Mam and the wolf was after the sheep and it wasn't

- I think when you tell a lie, you touch something, when your Dad comes back into wherever, he wants to know if you done anything like that you're not supposed to do

- I think when you tell a lie to your Dad, you touch something and your Dad comes in and says, "No telling lies"

- When someone tells a lie to their Dad, comes back in, their Dad wouldn't know that they've moved

T. Is it always wrong to tell a lie?

- Well if the Dad said, "stay where you are" and you just moved, and you turn it on, a programme your Dad was watching, and you turn it off and you ran on to your chair (.) He would just know the difference if he left it here and the boy left it here. He'd know the difference that the boy was lying

- I think that if your Dad was looking at the television and you were telling a lie and your Dad caught you and you'd be in big trouble.

- I think that a lie is like if I saw a wolf and there was no wolf and if my little brother said, if he said, a wolf is coming to eat my little brother, that would be lying and Mam would chase, it away and Mam would give out to me because that would be a lie.

- If you brother broked a hair-band (.) and if you had a little daughter and she said he broke the bobbin and he really didn't

- If your mammy said a tree fell down and it didn't and when you went to plant it up again and it was already planted up because it didn't fall down

- I think if a boy comes and knocks on the tree maybe if it's a lie and people will come and he will make a lie and then people will chase after him

- I think if you tell a lie its not fair on them 'cos if it doesn't matter, you have to tell the truth

- I think when you tell a lie and somebody doesn't know (.) and when you do something bold and you said you didn't and you Mam and Dad say, what did you do and did you do anything bold and you said no and that's a lie and you did something really bold.

- I think when you tell a lie and it's <u>really bold</u> because my big sister told a lie and she ran upstairs and she said Mam, I don't like you
- Truth is good and you have to tell the truth because then you are good
- I think truth is doing things a good way
- If there was two wolves that would be a lie and there wasn't.
- Say if there was a wolf in the field and everyone said, it doesn't matter about the wolf (.) they though that was no wolf but there was a wolf and that was telling the truth

T. What if somebody came in here and said I want to steal all your money and you said to that person, Oh I have no money but really you have some money would it be wrong if you told him that lie or is that a lie?

- {Yeah} {Yeah}
- A lie is a bad thing and a truth is a good thing. If you do a good thing like say if you said Mam, Dad, I don't like you anymore and you told your Mam, I didn't say that. That would be a bold thing but if you said Dad I hate you and you told Mam, yes that would be a good thing, bad, truth (.) That's how you know truth and lies are
- I think sometimes you can be rude and sometimes you can be good and then if your Dad was watching T.V. and he was sitting on the seat and he was walking back and he saw you
- I think like if I had some money and I said to my Mam, I have no money. That would be a lie
- If you wanted to go out and you said, you wanted some toys but you really didn't and you got some sweets
- This is Dublin OK. If a digger crashed in somebody's home and if it was their digger, they crashed (.) him and somebody was doing it. They were in the wrong lane and in that lane going that way (.) It really didn't crash and the truth is, if any trains crashed and it did crash and that's the truth
- I think that if a boy says there's a beanstalk coming up and there isn't that would be a lie and if the people sees out the window that would be a lie
- I think that if you tell a lie you won't get any presents off Santy <u>at all</u>
- If you tell a lie and if you want to go home and you're very cold (.) then you won't be able to go home when you're very hot but you're very cold and you told a lie

- When you are hiding somewhere, going back in and you hit someone else and then person went home and then the other person know when it was
- If there was two wolves say in the field and someone said a lie, then that would be a lie.
- If you digged a hole in the beach and you put a <u>very, very, very deep</u> hole on the beach and you pushed someone in, you buried it up and the person in and you yelled you didn't do that, that would be a lie
- Say if you went to the beach with your friend and digged a huge hole and you bumped into your friend and you buried then down the hole

T. Maybe if you tell a lie and nobody knows you told a lie, so if you tell a lie and your Mam or Dad but they don't know it's a lie, maybe its OK then?

- I think when your telling a lie you must be careful that it's a wish because me Mam told me if you tell a wish for a lie your very first time it might come true and it might be something bad
- If you were going to the beach by yourself and you saw two people and you did a big shooter and they all bumped into each other and they all (.) and then they get back up
- If you had a cat and a fox was there if the fox saw the cat (.) I think that a boy saw the wolf and a fox and I would say if I was telling a lie, I would say to my Mam, Mam a wolf's going to fight my cat and that would be a lie because he didn't and there was no fox
- I think if you went out and you said to your Mam that you want to go to your friend's house and you really didn't
- I think if you bumped into a tree and it really didn't and somebody said to the man ( ) and it really didn't
- I think in the book that you just read (.) it was a lie and other lies if you tell a lie, and the next time when its really the truth and you say it then the people don't come
- I think when the boy says the tractor is coming and it is then maybe it will be the truth because the tractor is really coming<u>, really</u> is true. That would be a lie if it isn't
- I think if you tell a lie, if you eat you dinner and if you throw it down on the ground and you pick it up and throw it in the bin, that's a lie.
- When you tell a lie that will be mean because your Mam and Dad will send you up to your room and you won't be able to play with your friends

- My friends was on and he told me to ( ) my wall. The n he kicked him in the eye.

T. We have done three rounds now, if anyone else has anything else you want to add

- I think that when you tell a lie and your Mam sends you to your room and if you could open your window and jump out of the window
- If you were tidying your room and you weren't allowed to go out until it was tidy and you said your room was tidy and it wasn't. That would be a lie.
- If you tidying up your bedroom and your brother came in a wrecked it up again and messed it up again. And your sister went downstairs and told you Mama your bedroom was clean but it really wasn't
- If you robbed somebody and you really didn't. That would be a lie

T. Does anybody agree or disagree with what anybody else has said?

- I was, I was a dog, well it's not really my dog. She's in my Nana's. Sometimes I play with her and once she jumped up on me and I smack my head off the patio
- Well my friend went into the bushes with me. My friend went too far and it was really dark. He got a thorn in his eye and I had to go back in but I didn't get a thorn

T. And we'll finis there for today. Thank you very much

End

Script Eight

Good and Evil   Junior Infants

- I think when the people are good, they do nice things
- When the people are bad, I think they're mean and they don't give you anything because they're <u>really mean</u>
- The bad guys give you some sweets. I think they're like drugs and they make you die and then another person comes and you're gonna be dead and maybe he'll turn you into an evil cat
- Good people have a machine because they're dead and they have a machine up in heaven and an evil people (.) person, always plays with it and I think how people die is like that
- When the bad people do something <u>really, really bad</u>, Santa would never give you some presents.
- Evil is (   ) the devil is evil and they kill good people
- Bad people be evil and good people be good
- The witch was bad because the mother was bad

T. Can you be just evil or can you be evil and good at the same time?
- I think you can be evil and good
- When people are good or bad they'll be dead 'cos they'll kill themselves.
- There's machine up in heaven and when people are dead they...
- Bad people come up from heaven and good people
- When you are good you have to help other people
- The mean people come out of the ground and the good people come out of the sky
- When the evil person, they fight with good people
- The bad people fight with the good people and the good people fight with the bad people
- The good people fight with the bad people and the good people always win
- Good people go out and bad people go out and come out at night and everybody knows that the bad guys come out at night and the good guys in the morning (.) Baddies are in the world at night time and they put badness into good people and they steal the good
- When the good people are walking along and the bad people are sneaking behind, the good people look behind, the good people look behind and they

see bad people and they get in a big fight (.) and the good people win when the bad people are fighting with them

T. (2) I agree with the girl who said there is bits of good and bad in all of us. When babies are born are the little bits of good or bad in them from the beginning or how does it get inside you?

- Evil under the ground and the good stayed there and the good fights with evil
- Good people when they be nice and good people know that other people are bad (.) they dress up as witches, so that evil people won't kill them
- When the witch was bad, then the mammy tried to get bad with her and when the witch dies, the mother died.
- You can have a little bit of evil and a little bit of good and the good people fight the bad people and the good people win and goes up to heaven
- The witches aren't real but the good people are
- There was bad guys in the basement and when good people are walking in their house and the bad people open the door and they jump and they go down in boxes
- This is a little bit like Bernard's (.) He said the bad people sneak up in them and then the good people found them and they had a fight but the bad people just kick them and punch them and push them and bite them but the good people just did nothing.
- When like the good people fight the bad people (.) it looks like the bad people win and then they run off
- Bad people come out of graves and the good people come out of heaven
- When the bold people are walking by the bad people are at the back of them and then the bold people are winning and the bad people can't get them
- Bad people fight with the good people and the good people fight with the bad people. The good people just walk by in the their houses and then they go to the shop and then the bad people come out
- Somebody comes out and when they see this big hill and they see a witch and when they find a witch they find it (   ) If the evil spell goes on them they turn into bad and when they turn into bad they turn into evil and all the bad guys
- God's evil twin comes down to earth and puts all them boys in and he wants into goodies, so all that's left is the bad

- When God (.) when the fairies come down and when God sees the fairies doing something really bad to the other people, God comes down and tells them not to.

T. (2) If there's good and bad people. Does that mean there's good and bad trees or good and bad flowers or good and bad butterflies or good and bad chickens. Has everything got good or bad in it how do you know?

- This is a little like Bernard's. He said they sneak up and bash them. There's good and evil get mixed up and the monsters come along and they get back alive again.
- When good people fight and bad people fight. When they're finished fighting, sometimes they do stuff to the good people that they didn't do
- When the bad people are born they turn into evil people and when they're good they might stay good but I don't know if that would ever happen
- They hold their hands out until somebody comes and then they drag them in and put their powers under them
- The evil in good people (.) When the good people are born they turn into bad and when the bad people are born they turn into good, like when I was good and when I was born and now I turned into bad, somehow.
- Some people are born and some people are still bad when they're born and they grow up and be bad.
- The bad people have powers and the good people don't have powers cos when the good are nice and the bad people are not nice that says that the bad people don't get nice and the good people do.
- Dinosaurs are bad because at the daytime they didn't like the sun because it hurts their eyes
- Once when there's a Dinosaurs sleep in their cage, another Dinosaur keeps bashing into their cage to rob their little babies. Bad people rob the good people.
- Dinosaurs, they fight with nails
- All sorts of Dinosaurs, some are meat eaters and some are leaf eaters

T. Agree or disagree
- I agree with Kevin
- I agree with Fiona because she said good and evil

- I disagree with Ryan because he said that when dinosaurs eat leaves they turn into...
- No I said dinosaurs are all different kinds some are leaf eaters and some are meat eaters
- Someone died yesterday

End

Script Nine

Where did Adam and Eve Live?

- In a very nice place
- They lived in God's world but then they ate the tree and then they got to go somewhere else
- They lived in a garden
- They lived in God's garden
- God just made them and put them in the garden and they ate the apple and they just got punished
- The lived in the Garden of Eden
- My Grandad has a book of the Bible and he...
- They know they were in God's garden and they were good friends with God
- They knew where they were and they shouldn't eat anything off the good and evil tree
- They lived in God's garden and they knew where they were cos they looked after the trees and animals there
- They ate fruit and they weren't God's friends anymore
- God sent them away and they heard the news
- They knew where they were and they are the forbidden fruit and God sent them away
- They listened to the snake and the snake made the fruit sound so good, so she took fruit off the tree and give it to George. God put and angel with a sword guarding it so they wouldn't come back
- They weren't Gods friends anymore because they ate the fruit
- They weren't sorry
- The snake was talking to Eve so God made Saint Patrick put the snake away
- God made Saint Patrick's Day 'cos it was lovely day to have it

T. Describe the garden

- The garden looked like (   )with loads of trees
- The garden looked beautiful to Eve with the trees and a river
- God growed stuff there
- There was loads of ponds for fish to swim in and loads of animals
- When they stopped doing all the bad things, God made the fruit more healthier
- There were lots of fruit and a waterfall and a mountain

- There were loads of animals
- The animals were dangerous and some weren't dangerous and the snakes laid eggs and the snake that told Eve to eat...
- They didn't listen to God
- The garden had whitey and yellowy grass and loads of trees and one was a forbidden tree with forbidden fruit
- Maybe he made the garden wrong. (.) He shouldn't have made the tree
- There were loads of animals and some were bad and some were good
- A snake <u>might</u> have made the tree and God knew that he mightn't' have been able to chop it down so he left it
- Lovely flowers
- He shouldn't have made the bad tree and the snake
- He shouldn't have made the tree because the snake went and lived there
- He shouldn't have made the trap to make the snake evil
- God shouldn't have made the tree and the snake

T. Why?

- Cos they are the fruit and it was bad
- I disagree with Aidan
- He shouldn't have made the tree
- I agree with Ciaran that he shouldn't have made the tree because it had forbidden tree
- He made it for no reason, he shouldn't have
- I agree with Ciaran he shouldn't have made the garden because there are loads of trees with apples
- I agree with Ciaran

T. Do you think they were lonely?

- No cos maybe the animals were psychic and they could put ears on Adam and Eve and they could talk to them
- God should have got rid of the snakes not Saint Patrick
- No, they had ponds to go fishing
- God made food for them
- They weren't lonely because they had each other
- They weren't lonely because they had God and the animals
- They were lonely a little bit because God sent them away

- God made the fruit because it was very healthy
- Might have been lonely cos sometimes they wanted God with them

End

Script Ten

How were the first people made?   Senior Infants

- God showered sprinkles of magic down and people just came
- This is easy, bones
- Cavemen were the first people and then normal people came and God made their skins and they were born in Mammy's tummies
- God made people so he couldn't be lonely
- God made them out of all his magic and it took him a <u>very long time</u>
- God made seeds first and they were the people and then some birds came along and put it into Mammies tummies
- God was bored of Mary and he made all the people
- God was lonely so first he made bones, he got loads of meat and made people and then ...
- Animals evolved into people
- God was the first one on the planet and then his wife got a baby and then they died
- God made people by skin and bones

T. When did people come?

- One million years ago (.) 'em, when there was nothing that you could see only dead trees
- When dinosaurs were alive, ten years after they came
- God made cavemen first
- God made people because he just wanted to be with them
- God made people 'cos he wanted company
- God made people because he wanted them to live on earth
- God was bored with the dinosaurs killing each other and he made a big volcano erupt so it would kill
- God first made dinosaurs, then he made cavemen and then he made people
- God made people
- He needed somebody because he was lonely and he wanted somebody to care for him and love them
- God made people out of bones
- God made people so they could have bones

T. What did they do all day?

- They looked for food
- They played
- They played all day when it was night they went to bed
- First they ate breakfast, then they had their lunch
- The lived in houses with bedrooms
- Cavemen spent most of their time in caves drawing pictures of what they were going to kill on the walls
- They stopped dinosaurs
- Kids could play and the mammies cooked
- They lived in caves and they didn't have any clothes so they had to go out and kill
- They had mud houses. When it was sunny, mud all dried
- They builded stuff, by making with their hands
- Could have used drills
- Would they have?
- Cavemen used sharpened stones and made screw drivers used some sticky stuff to stick them together
- They carved the stones; they rubbed stones together to make a fire. I seen it in movies. They used sticks as well
- They made weapons out of rocks and sticks
- They got a stick and a piece of rock
- They might play ball-play
- They were very tired and they went to bed
- Where?
- On the ground
- They carved stuff with the rocks
- They carved stuff with a spear
- They have sticks

T. Would you like to have been one of them?

- No because they'd have rotten cloths and they wouldn't have had a wooden houses
- They wouldn't have cloths to wear
- Wouldn't have big houses like us

- I wouldn't because they didn't have food
- They did have food, killed birds
- They didn't have proper beds
- There was a lot of dust, so I wouldn't want to live there
- Didn't have any cloths to wear
- They were eating poison berries and they were dying
- No because you'd have rotten houses, made of stuff
- I'd like if I was a dinosaur cos I'd be…
- Wouldn't be able to wash cloths
- Wouldn't be able (   )They'd no light
- Wouldn't have some houses or some food
- Wouldn't kill long necks. I wouldn't like it because of the sabre tooth tigers
- I wouldn't like to live there because they were very weird

End

Script Eleven

Clouds, Thunder and Lightning, Rain and Wind Senior Infants

- I think the moon was an egg that grew and grew
- I think there wasn't any shores there wouldn't be a flood
- T. What are clouds?
- There all paint that you mix up and you out in fluffy stuff, gets cold rain gets hard
- I think thunder is God's fist breaking through
- I think the clouds are little tops that go around like that (.) painted blue and white
- I think clouds are all steam
- I think clouds are just really, really cold air from Heaven
- I think clouds is just one big puddle of water. When the sun comes out, dries up all the rain
- The lightning is just yellow and its hard on people
- Clouds are just gaslines, too much rain
- I think clouds are just fog, ball of fog mixed up
- I think there's water in the clouds
- Cotton balls in the sky. They're all fluffy

T. Where do they go?

- I think clouds go to Heaven to be clouds
- I think clouds go when thunder and lightning come because God's there, has a big stick
- I think they just fade away
- God puts water on them and they go back to Heaven (.) Rains good
- I think they go to different countries
- I think the sun beats the clouds sometimes and the clouds beat the sun sometimes
- Maybe the clouds fade away to town
- I think the clouds are just like fog
- I think the clouds are just invincible and God made them
- I think the clouds behind the sun and the sun moves, too hot for clouds, big ball of fire
- I think the clouds disappear

- I think they go to different countries when its really hot
- Go up to the second sky
- They just move away, they move away very slowly. God is pushing them with magic stuff
- They move because the sun is too hot for them
- What makes them move?
- The wind moves them
- I think God sends little ghost that died. You can't see them. Sometimes when you lie down the clouds…
- The air is so strong you can see the clouds move
- God's hands pushes them
- I think all the noise makes the clouds move
- When I go somewhere, it looks like clouds are going very fast
- I think clouds are a little bit of dark
- When you're in the car, it looks like clouds might be moving but they're not at all
- I think when you're down on the ground think clouds aren't moving, when in a plane
- Clouds are moving because the wind is so strong
- The wind pushes them
- I think when you're going in an aeroplane, clouds look like big rocks, if you're going
- I think clouds move like a butterfly and snail because they move very slowly
- When I was in an aeroplane coming….

T. Why are clouds different shape?
- They join together, they go through each other just
- Once I saw a bunny rabbit once
- When rain rises up could attach
- Once I saw a dragon made out of clouds
- Only in big hills and mountains there can be fog, clouds go low down
- Sometimes I see people in the clouds (.) God draws people, God's an artist I guess
- Once I saw a Spider
- I think God gets markers and draws clouds and sun every morning and he draws it better and better, that's how it gets hotter and colder

- Once I saw a cloud that spelled Pokemon
- I think God goes with the clouds. He's invisible so he stands in the clouds
- I think the clouds join together and they make things
- I think the clouds just go into different shapes
- Once I saw a train
- I think how the rainbow gets all different colours, sometimes sunlight....
- I think clouds just want to be big so they can drop lots of rain
- Tiny spider
- I once I saw a fish in a cloud it moved its mouth opened and closed
- Might have been a fish heaven
- I think it might be my fish because my fish is dead
- How is it alive?

T. Thunder and lightning

- I think its fun because it makes a very loud noise
- Its very dangerous because it could damage your eyes
- Thunder is very loud because God might throw it down
- When you're looking outside thunder might make your eyes sore and then you might get blind
- Thunder is like electricity can know down poles, power to kill
- The thunder and lightning is like the sky is lightning and its cracking, me and my three brother were out
- My friend, Robert
- Thunder and lightning, God up in Heaven who has the big stick and he gives it to his fighter and his fairy
- I like the thunder and lightning because it makes you comfy in bed
- Thunder is very dangerous. I think God just takes up out of a pouch and throws them down from Heaven
- Lightning is thunder because there's no gravity in clouds
- Thunder is very dangerous. Thunder went through mammy's house
- Thunder is from Piliatus
- I think thunder can kill everybody in the world
- God brings thunder down to annoy the devil
- I agree with Aidan, I think he just puts them down to kill the devil
- I think the thunder is a long way away

- Holy God puts the lighting down to try and kill the devil because the devil is very mean and if you tell a lie
- There's no such things as devils. There's only fire and lava
- I agree with Aidan because when angels throw down thunderballs
- I think that god throws down thunder bolts to kill some devils so they won't come out of graves to kill other people to bring them
- I don't agree with Aidan (.) don't go under there because you'd burn in lava
- I don't agree with Aidan
- Fork lighting can kill you

End

Script Twelve

Seasons   Senior Infants

T. When Spring comes, all the birds build their nests. Who tells them to start building nests?

- Holy God tells them
- The leaves could tell you that it's spring
- The weather could tell them
- I think it gets sunnier, just the way the season
- God just magically talks
- It gets hotter
- Flowers ready to pop out
- They'd know by the colour of the leaves
- They'd know by the leaves coming back on the trees
- They'd know because the leaves were falling

T. The leaves would tell the. How would the leaves know?

- The leaves (.) the branches swing
- If it was hot all the time, it would always be hot.
- Nobody would tell the leaves, bold boys, taking branches
- The sun just comes out, other weather goes together countries
- I think the leaves get
- Who tell them?
- It gets colder
- Maybe God tells them
- God makes leaves, get so big, they get old
- When it gets colder, the branches freeze
- Mother Nature tells the leaves
- Maybe the weather
- Maybe nobody tells the leaves. When they get old, they just go brown
- T. Why would God keep changing the seasons?
- Maybe he wants to have loads of seasons because he likes being warm
- It's also because...
- Baby animals get started to born
- God does tell them. They'd stay like that

- Mother Nature is one of God's friends. They help each other to make other weather and animals to grow
- Maybe people are annoyed with weather and God changes weather
- Maybe God just doesn't feel comfortable with all the weather
- Maybe he likes winter
- I think God changes the weather because he wants to
- He changes because animals sleep
- I think God just...
- For winter to come for cold and summer for warm
- Maybe couldn't, just thought of more seasons and he just stopped
- God just wanted to make four seasons to have four different times of the year
- Maybe he likes seasons
- I think he just wanted other people for people in hot countries to get colder

T. Is God pleased with himself?

- I think he made hot weather because people have to have hot weather
- I think God thinks he made a great job
- I think God wasn't having fun, because if there was just cold all day and if it was autumn everything would be winter
- If it was just hot...
- I think God has a machine up in heaven and he made it wrong and God just kept going wrong
- I think God is happy with himself and he likes summer and he likes the cold
- I think got made four seasons because he doesn't want to be too hot or too cold
- Maybe God wanted four seasons
- Maybe God wanted to make winter so birds could be hot and cold
- Maybe God wanted to change it
- Birds have very good senses, tells me what day it is (.) clock
- God gives them ideas
- I think it's their bodies and the make nests. They can fly and they have a different body, a different body makes a different language, <u>different body makes a difference.</u>
- Whenever they build a nest, they can go to asleep
- Do birds have a language?
- Birds have a language and we have a language because we're all different

- Birds have a language
- I think they do have a language but they don't use it
- It's imagination
- They have a language, the way they're whistling and they're...
- Birds have a language what one different from others

T. Do trees have language? Does everything have language?

- Trees don't have language because they stay still
- Trees don't have language because they're...
- I think trees don't have language stuff like plants and tables and stuff don't have language
- Some things have language because some things have electricity to make them talk
- Because other things are living things
- Cats and dongs can talk
- Birds don't need the trees to talk because they can fell the fresh air themselves so they know
- Somebody made tables and stuff, not made to talk, just made
- Maybe birds just talk (.) They just talk

T. If you had a chance to make one more season, what would you call it?

- It would be cloudy
- I think he made clouds. I think he made aeroplanes

T. What would you put into the season?

- I'd put in every season, summer and winter and all those seasons and loads of rainbows because everyone likes rainbows best
- My season would be when all the fruits come down
- Every day you'd
- I'd call my season sunny season and they'd be rainbows
- I'd have winter because don't like
- I'd have a season once
- I'd have a season where there was wind everywhere and if you were hungry.
- I'd call it sunny season
- I'd like all the days thunder and lightning
- I'd love to be in Lapland

- I wouldn't like to go to Luke's place because it would be raining
- I'd be afraid to go to your place because I'd afraid apples would fall on my head
- I like rainbows because they have nice colours
- I agree with teacher and myself
- I'd have land; sweetland where loads of sweets grow and you'd just pick off sweets. They grow on walls.
- My other season would be you'd get everything for free
- Summer because then you'd be …
- Can't have a new season because what months would it be in?
- It would be calm, because you'd ( )
- I think its thunder and lightning because fireballs coming down from
- I agree with teacher, I'd like her season
- I think God would like winter best because he'd throw snowballs
- I think God likes snow because you'd be able to throw it at people
- I don't agree with Ally because if it was always winter you'd be always wishing it would be really hot
- I think God likes the weather when it's raining (.) watering can
- I think he'd like winter because its Jesus birthday
- I think he'd like St. Patrick's Day

End

Script Thirteen

Earth   Senior Infants

- Jesus made the world too
- God made the world for humans to be born
- God made the world for earth
- God made the world for people
- God made the world for special people
- God made the world for dinosaurs
- God made the world so we would have a jig-saw piece
- God made the world so we could live on it
- God made the world to keep people safe
- God made the world

T. How did he make it?

- He planted seeds
- He put water on seeds
- He had magic
- He had super powers
- He made the builders and then builders made the world
- He made sea with a spit God had to do hard work to build the world
- Jesus helped him
- God made the world with Jesus and it was very hard work
- God planted the trees for people to pick the apples
- He just made a cardboard tree up in the clouds and then he made it
- He was lonely because he didn't want dinosaurs taking everything
- He thought of...
- God made people cos he's very smart
- God made the world cos he was lonely, he didn't want people to die
- God made water out of a shower
- To decorate the world, for ducks to have water so they wouldn't die
- God planted trees so he'd have something bigger than flowers and grass
- God made the world so he'd have friends
- The factory made drinks for people so they wouldn't die
- God made the world for people to play
- God made the world (.) wanted people not to die

- God made the world so the president could make all the rules
- God made the world for people to have fun
- God made the builders so they could make schools for people to learn in
- God made the world
- God made the machines so they could build schools
- Made the world so we could make friends
- Workers made houses
- God made the world cos dinosaurs were

T. How did he make it?

- He has powers (.) it took him a very long time
- He probably got the idea of the moon and then he made earth
- God made the world with lots of tools (.) He couldn't make it without tool
- God got probably the idea of people when they were
- God made the summer so people could have holidays
- God made us so we can live in houses
- He had an idea of making the sun and the moon and then the eclipse and everything
- The moon was probably able to talk and tell God
- Got the idea off the sun and watched people playing on the beach on a sunny day
- Made people and send people down to earth and make people alive
- God found a piece of iron and he cut down a tree and then he made a hammer
- God made the world because he didn't (.) he made school so children would learn
- God made the world 'cos he was very lonely and wanted people to help him
- God made the world so they could learn in school and do take always
- No one was there. It was empty. It was very quiet
- Made toys for children to play with
- God made the planet
- Nothing, just space, it was very quiet and God and Mary, not really Mary, she was just a normal human being
- All that was there was two trees and he could have got two sticks and made dinosaurs
- So people could live

- It was when ancient Egypt when God was there because no one was there and there was no houses, only ground
- The earth when it was started up was a big lump of brown muck
- Maybe he made ( ) then ball came to earth and blew up the earth and use dinosaur skins for humans
- When God was there, there was only dinosaurs
- After the world was empty, then came volcanoes and then dinosaurs but dinosaurs were getting crueller so he made something nicer so he made people
- God made world, then he made Adam and Eve.
- There was loads of space and the only space there wasn't was near the trees.

T. Do you think he made a good job?
- He made it clean and shiny because there's no dirt there (.) only...
- He made horses 'cos you could win a race with them
- He was a <u>really, really</u> nice guy
- God made the world for loads of people to have food
- God made a good job because people are friendly
- He made cats and dogs because people were lonely, so they'd have somebody to be with
- God made world he was very quite and he was lonely
- God let us live here because he didn't want us to walk around on nothing
- God made the world on nothing
- God made the world fun for people
- God made the world for people to live

End

Script Fourteen

Sun, Moon, Stars and Planets

T. Where does the moon go during the day?

- The sun goes to the moon
- I think the sun hatches and egg and the sun hides behind the moon
- The moon hides (.) no, the sun hides behind the moon
- The moon means its dark at the other side of the sky
- I think the sun goes to Ireland, when the world moves around the sun stays in the same spot
- I think ...
- I think all the planets move around
- I think the moon goes on top
- The sun goes to a part of the country and that makes light and the moon goes to another country and that makes dark
- The sun here (.) its night in Australia
- There's loads of different countries

T. What is the sun?

- The suns a big massive ball and then they put it on fire
- Niall was talking about the ball
- The sun lights the stuff up in the morning so people can see
- The moon is a round ball
- The sun is like a little light bulb but its not
- The sun is really a big star
- Maybe...
- They put a ball on the sun and then they put it on fire
- The sun is a light for the morning
- The sun is yellow and the moon is white
- I think some men stay on the moon (.) footprints make the sun come
- The moon is 200 tons of rock
- The sun is kind of (.) nobody know what its made of cos God made it
- I think the spaceship men have a crab with them, I think there's a little switch on it and the spaceship men turn it on
- I think the sun is made out of fire
- The moon just kind of moves around

T. Who made the sun?

- I think God put it in a special place
- I've a book about all these questions
- I think there's a little shiny ball
- I think its just a big ball of heat
- The sun is a big ball with light on it
- I don't think God put the sun or moon there (.) it just grew and grew and grew.

T. What are the planets?

- They're a big ball too but they don't have light on it (.) people live in it because its so big
- Big ball about the size, there's lots of green and blue and its eater world
- I think they're all …
- The moon, it looks like t he moon is following you
- The planets that God grew are different to these flowers. The planets made other flowers
- I think some planets are warm
- I think Jupiter is the coldest planet ever
- I think Jupiter is cold
- I think the moon is blue and the sun is yellowy-white
- The planets in space are just decorations to make it nice

T. Why did God make them?

- He made them because he was really lonely and he wanted some friends. He wouldn't want them to go to Bethlehem because Bethlehem was too crowded
- I think the planet was just a little ball then God made this growing seed and they grew bigger
- I think God when dinosaurs, he didn't want them to hurt themselves
- I think God because he was so lonely and he wanted to make the people
- I think God knew that dinosaurs ( ) a rocket and moon and Mars to see what snow likes before
- The sun and moon are planets
- God made planets (.) people hot and cold
- God was lonely so he made people
- I think God, it was in the old days

T. Can we see planets?

- Only it you have a telescope
- Earth, it doesn't move, only the moon does
- I think the sun isn't like Mars, Jupiter. God said if you want more people you should make more planets
- I think God made planets where humans plays and all
- Do people live on planets?
- Yeah
- 'em aliens used to live on planets
- Aliens used to live there
- I think that God only made the moon so a spacemen could go there for a while
- Earth is a planet
- Stars light up at night
- People still (.) dinosaurs used to live on planet earth
- Yeah, cos I'd see if there was any pieces of gold
- I wouldn't go, because you'd be too far, you might slip off and float away from the moon
- I wouldn't like to because sometimes rockets blow up
- I wouldn't, cos if you were up there you could get lost
- I just wouldn't
- Yeah, because you'd get to wear jumper and jackets because its kind of cold there
- I'd like to go to the moon
- I think there are little creatures (.) I'd like…
- I would and I wouldn't like to go because you might fall off or go down one of the holes. I don't know why
- I don't want to cos its too cold
- I would like to go to the moon if your mammy and daddy are going with you ( ) gravity, like flying
- I wouldn't like to go and wouldn't
- I wouldn't because you'd crash into the sun. I would like to go to the moon because you can fly
- I'd like to meet the man on the moon and float
- I would like to go cos you'd jump up and down

- I wouldn't like to go, if you fell off mightn't see your parents again
- The stars don't have corners. They're just a circle with bumps
- The moon is brighter than the stars and God said to himself
- One day when we were driving home…
- The star would hold you because they're really big and really far away
- I would like to go on a plane
- The stars are just big balls of gas burning a million miles away. Its sort of good to go to Mars. Might be sand storms, might fall off
- The stars isn't that sunny (   ) if there's millions of stars
- I think the stars have tiny light bulbs in it
- I think there's a man in the stars
- I think stars are made out of spikes
- I think the stars …
- I'd like to go to the moon because there might be Pokemon living there
- I'd love to go to the sun, then the moon and then the stars. You could blast off from the moon

End

Script Fifteen

Was the Wolf Telling the Truth?   Senior Infants

- He was telling the truth, I think it was another wolf who set him up
- He ate the two pigs because they wouldn't let him in
- I think he ate the pigs 'cos he was very mad 'cos they wouldn't give him sugar
- I think the wolf wasn't telling the truth cos <u>good</u> pigs and <u>bad</u> wolf
- It wasn't the wolf
- I think he's telling the truth ( )making cake
- Maybe he ate the pigs cos he was hungry
- I agree with Aaron
- I think he was being very nice 'cos he just wanted to meal his grandmother
- I agree with Ciaran 'cos he didn't have anything to eat
- I agree with Ciaran (.) long travel (.) could've just buried the pigs
- I agree with Aaron 'cos the wolf was telling the truth
- The wolf was telling the truth about the sugar 'cos you could see he hadn't any sugar
- I think the wolf was good 'cos he asked for the sugar and he didn't steal it
- The wolf should've went to the shops
- I agree with Ciaran
- The three pigs, the last one was very mean and he was the smartest of them all (.) but he still could've put a bag of sugar on the window
- I don't agree with Ciaran, he had to eat them

T. Bold people tell lies because they don't want to get in trouble

- Not just bold people tell lies sometimes good people tell lies
- I think that every kind of people tell lies
- Either bad or good people tell lies
- My cousin Shane (.) I agree with Stephen 'cos some good people can be bold and bad people can be good
- Bad people always tell lies
- Lots of people tell lies. Lots of good people don't tell lies
- I agree with Stephen
- Bold people but there's some goodness in bold people
- Teenagers tell lies to their Mams
- Some good people tell lies (.) they can't stop telling lies

- I agree with Ciaran 'cos I know somebody bold and they tell lies
- Most teenagers do tell lies and only happy if they want to go somewhere they steal money
- Good people tell as much lies as bad people
- Yesterday ( ) took lock of door
- I agree with Stephen 'cos he's <u>really</u> right
- I agree with Connor, teenagers do rob because my sister, Megan, tells lies 'cos she took my Mum's tenner
- People do tell lies and they are very bold
- I agree with Stephen 'cos teenagers do rob and tell lies
- Teenagers do tell lies to their Mams, but they're still good (.) never rob stuff from banks
- I think teenagers don't rob, they're just robbers
- Teenagers …
- I know people that are good 'cos they save money for you
- I agree with Allie, Stephen and Ciaran
- I agree with Ciaran 'cos I know somebody, a guy named Jerry and his son robbed a fiver off me
- Some teenagers do rob money from banks and it would be good 'cos they'd give money to poor people
- I agree with Stephen because he is right 'cos poor people need money to buy a house
- I don't agree with Stephen ( ) keep on
- I think robbing is bad, cos just ask the people (.) just get …
- You have to say something like I didn't take your sweet for you
- My brothers robs money off my Mum
- Another way of doing it is just get a mask off somebody else. Did you steal my purse?
- Just don't mention it and then you won't get in trouble
- You have to use words for telling a lie 'cos if you don't use them you won't be telling a lie
- I agree with Allie
- I agree with…
- Tell Mam or Dad
- Tell teacher if you were in school

- There is a way of telling a lie with outside speaking. If you have nice manners just tell them and you won't get into trouble
- I agree with everybody
- I agree with Ciaran and I think that if you do tell a lie God will put you into trouble
- I agree with Ciaran, cos if you had a good Mam you could tell, if you had a bold
- I don't agree with Ciaran. If you have a good Mam, they should give out and ground you
- If you tell a lie and God gets upset and cries and makes rain come down
- (   ) if someone told a lie...
- I don't agree with Luke
- I agree with Stephen cos you'd have to get grounded
- I do know what grounding is like
- I don't agree with Luke or Ciaran.

End

Script Sixteen

Good and Evil

- Good is a good thing like you do something
- Evil is like bad people kidnapping people. Good people are cops arresting bad people
- Good people are mostly Gardai
- When you said the troll jumped up onto the bridge, he meant them to stop crossing the bridge
- Good people are Santa, your Mam and Dad
- Good people are things like (.) the devil makes them to go to hell
- Bad people would murder you or kill you
- In America they have guns, that's kind of evil
- OK for ordinary people to
- No they'd go to jail
- Bold people like Catherine Nevin because she killed her husband to get all his money
- Somebody's wife killed a man
- I agree with Mark cos in America good people shouldn't have guns because good people might shoot ...
- I think I agree with Luke
- I agree with Mark
- Once I was still four and that night some boys ...
- I agree with Luke because the good devil is good and the bad devil is evil

T. Why did God make bad people?

- Maybe they could get captured by the police
- If bad people weren't made the good people wouldn't be made
- I don't agree with Luke (.) it doesn't go like that (.) People (.) God people might decide to murder people
- I don't agree with Luke because if bad people were made (.) but good people and bad people are made
- I don't agree with Luke and I agree with Stephen cos if they're teenagers or six years olds, they're just being smart
- I disagree with Luke
- The devil didn't make Halloween. The dad witch did. If all the bad witches (.) all the bad witches would kill everybody. all the good witches

- I agree with everybody
- I agree with Mark because...
- I agree with everybody except Luke
- I agree with Stephen
- I agree with Mark and Stephen. Bad people go to hell
- Once my Mammy's car got broken down one night (.) They tried to get the car (.) Mammy had to tell my Daddy
- I don't agree with Luke. All they do is just grow and when they get older they grow old
- I agree with Aaron cos if good...
- I agree with Mark because in America, just put them in jail
- Something does happen bold people. They just don't go to jail. Their Mams and Dads just let them watch T.V. and stuff all day
- Bad people are punished by God
- Bad people go to hell and good people go to Heaven
- I agree with Louise, bad people go to hell
- I agree with Luke because he's right
- There's a friend a murder of mine (   ) loads of books (   ) girl murdered
- I agree with Aaron, don't agree with Luke because there's no such thing as devils
- I agree with Aaron, don't agree with Luke there's definitely no devils
- I agree with Aaron and Connor, bad people might get like go into jail and some good people get something bad cos bad people slaved them in Egypt once
- Everyone shows on telly that there's such things as devils (.) bad people don't go to hell cos there's fire and lava underneath
- I don't agree with Luke because there's no such thing as devils
- They just go up to Heaven and they have to be slaves
- I agree with Luke (.) like if grown-ups does something bad they either get killed electric chair
- My Mammy never found out what happened to the robber that took her car
- When bad people do bad things they go to Heaven and they get killed there and anytime they tell a lie
- Luke (.) there was Devils, years and years ago but there was (.) I agree with myself
- I don't agree with Luke, no vampires (.) I agree with myself

- I know what they look like because people made it up and that is what people think
- Some people are kind of smart and some people are really smart
- I'm back to agreeing with Luke
- I agree with Mark because devils do have big forks and do have horns
- There's no such thing as hell but there is places where bad people go
- If you told a lie and went to bed the devil would come and take you and I agree with Mark cos he has horns and sticks because he likes to kill people and burn them. My brothers tell lies (.) the (.) my brother is a baby and he's only two and he keeps stealing cheese out of the fridge
- I don't know what the devils face looks like and his
- I don't agree with Mark, you know what hey look like because of T.V., there's ads
- I don't agree with Stephen but I agree with…
- I don't agree with Roisin
- I agree with Luke
- I don't because my brother, even my brother Alex, he's the big fella and he's seven and he makes the breakfast for himself, never finds out what he does
- Once when I was three, my brother told a lie, the devil didn't come
- I saw a film about the devil, covering body in brown stuff
- I agree with Luke, Stephen and Mark
- I agree with Stephen but I don't agree with Mark and Luke
- I agree with Stephen because there is no such thing really as devils, they used to be alive, there's no such thing as hell
- Nothing does happen to bad guys when they die. They just go to Heaven
- I was wondering what the devils doing now
- There is such a thing as hell
- I agree with teacher
- I don't agree with Max because some …

End

Script Seventeen

Adam and Eve

- Nobody was there before them
- I think that Adam and Eve were made out of dust (.) but they were the first people that were made out of dust
- I agree with John because they might be made out of dust
- Adam and Even were the first people in life. God made them as dust. How do we know that we're not dust like Adam and Eve is?
- I agree with (.) John (.) co they coulda been dust
- {There's no nothing to say}
- {I think the snake,} he shouldn't haven been there. Because he knew that that tree was poisoned and he wanted them to get poisoned
- I agree with John because the might have been made out of dust
- I disagree with John cos how how d'ya know they might be (.) how d'ya know they might (.) they mightn't be made outa dust? The story mightn't be (.) the person who made the story mightn't be right
- I agree with John. Cos he said, he said they could be made out of dust
- I think the garden looked like the clouds were candyfloss and the snake was all triangles all over his body and he was green and the grass was (.) green and if you picked a bit off and ate it, it would taste like liquorice (.) green liquorice and the snake he was, he was very nice. He squiggles all up on your body and he went the top of your head he made a little bed
- I disagree with John because he's always (.) we know they're, they're made out of dust but we're supposed to come up with a tion (.) not what we already know from the story
- I agree with John, that's why he said they might be made of dust
- I think that its not fair on is cos if they just ( ) if Adam and Eve didn't eat off the tree we'd be in that garden now
- I disagree with John (.) cos how do we know that they're made out of dust...

T. Why did they decide to do that the snake told them?
- { Cos they might kill 'em (.) he might kill them}
- {I don't know Miss, cos} It might have been poisoned and he might of killed em
- I agree with John. They could have ( ) the tree has to be poisoned and he might have killed em too

- What does it mean?
- He did it cos (.) I forget
- I disagree with John cos how of we know they're made out of dust
- Miss, I can answer your questions – why the serpent told em (.) eh (.) why I mean (.) how (.) why did they eat the apples – cos the serpent wanted them to get out of the garden and if they ate the apples, God (.) the serpent knew that God would put them out of the garden
- I thought, what d'ya call it the snake was like liquorice and there was this pig and he could eat all the animals and if you took a bit out of the tree it tastes like (.) chocolate
- Maybe the snake wanted the em, the me (.) animals to eat it and maybe the snake didn't agree with God and then maybe the animals at the tree
- I agree with Stephen K cos maybe, maybe the snake did want them to get out of the garden and I think that I God didn't want them to want the tree why didn't he take the apples off first off it?
- I disagree with John cos how d'ya know they're made out o dust cos you weren't even born
- Miss, I disagree with all the boys that agree with John. Because how do you know that they going to be made out of dust? They could be made out of anything else. And em I agree with Stephen as well because em, God (.) the snake might have wanted them out of the garden
- I think cos he said 'Don't (.) don't eat the apples off that tree (.) cos what d'you call you'll be like God' and what if they did, what if they did , then they'd be like God and then if the snake eats it then he'll be like God?
- What if he had said "Ye'll be like God"? Adam and Eve ate the apple (.) he could have turned into God and liked it
- I think they said "I don't feel very knowle (.) I don't feel very (.) brainy at all (.) I don't feel very like God at all. And then they went up to the serpent and punched him and punched him
- Miss, they turned back into dust
- Miss, all the boys who agreed with John and said "Maybe they are made out of dust" (.) They're all wrong cos they are made out of dust (.) and maybe we are made out of dust. How do we know?

T. How do you think God found out that they'd eaten the fruit?

- Cos maybe he knows how many apples are on it and maybe he seen the apple with a few bites taken out of it. Then Eve said "the servant made us do it" and God said, "The servant didn't make you do it". He said "I told you not to do it and you done it"
- He threw em out. Out the garden
- Miss (.) oops. I agree with Stephen (.) He did put them out of the garden and he put the into the wilderness
- I agree with Stephen too. He did give (.) he did give them out the garden and put him to the wilderness

T. If you could give Adam and Eve some advice what would you say to them?

- I don't know Miss

T. What would you tell them about the tree? Would you tell them to leave the tree alone or to keep eating?

- I couldn't hear cos Ryan was talking

T. Ok. I said – if you could give Adam and Eve some advice now (.)Supposing they haven't yet eaten the fruit, what advice would you give them?

- Don't eat the apple from the tree
- Why?
- Cos God mightn't have said it might be poisoned (.) poisonous and I agree with Stephen too cos he did throw them out of the garden
- I disagree with Stephen. He did throw them out of the garden
- Em, I think that em, if they (.) if (.) they went into the garden and ate some of the tree it might be poisoned. And the snake (.) the snake will want them to go out and have the whole garden to himself
- I agree with Colm cos when em (.) and I disagree with John cos Adam and Eve are made out of dust. But if we touched ourself (.) if they were made out of dust – we'd have to be made out of dust. And if we're touching ourself all our hands would melt
- I agree with...

T. Shane, can I ask you a question? How do you think they felt when they got put out of the garden? Sorry, P.J. could you sit back a little bit, I can't see Shane's face? How do you think they felt when they got put out of the garden?

- Sad

T. Why?

- That's why they have no food to eat and they have no house
- I think that when they got put out of the garden they felt em, they felt guilty
- I think they felt lonely cos they're in the wilderness on their own and they have nothing to eat and everything
- I think Adam and Eve is sad
- Miss, God just maybe wanted to send Adam and Eve out of the garden anyway cos the apples on the trees are good. He just didn't want anyone to eat them
- I agree with Stephen cos he did send them out of the garden

T. Ok. We're back to the start (.) sorry I thought we were

- Miss I have two ideas. I disagree with John Kiely, because if we were made out of dust and if we went out in the wind we would die because all the dust out of us would be blown away. And two – I know why God sent (.) I mean in know why the serpent angry and then and then (.) the serpent wanted to get back at God by doing something mean.
- I have two questions to say. I disagree with John Kiely because if we were out in the rain what d'ya call it, we all (.) we all melt and there was only one person left in. Adam was left in and Even was outside
- When em, when John (.) I disagree with John because he said that we might be made out of dust and of was raining and if you were in town with your brother em (.) if it was raining and it was windy you'd be blown away and washed away as well
- I disagree with Stephen, Brain Muldoon and Ryan O'Sullivan because they said he put them out in the yard. I think he put them to the devil. And I agree with Stephen Kenneally because maybe the snakes were jealous. And I think that I know why the snakes wanted to get Adam and Eve out of the garden cos they were getting to eat everything. And I know why God (.) And I know why God didn't want Adam and Eve to eat the tree cos that's where God got all his powers

- I think the snake thought the tree was ( ) all the apples were poison. He wanted Adam and Eve to eat them cos they were poison. He wanted them to die to eat them
- Miss I think Adam and Eve just wanted to just eat something and they forgot all about it. And the snake just told them to eat it and he wanted them to get out and I'd say God wanted to get them out as well
- I disagree with Craig Hourigan because he said if Adam and Eve were made out of dust and then if the wind came Adam and Eve would blow and be small...
- I didn't say that at all
- And God sended Adam and Eve there and if they were bad he would of sended them out of the garden
- The tree might have been poisoned. The snakes couldn't have knowed. They mightn't have ate it. There just mightn't be apples and it mightn't be poisoned
- Miss ...

T. Try not to talk to Miss. Try talk to the boys in the group
- I disagree with everybody who said apples. Because how do they know its apples?
- Because someone told us

T. No. We said apples
- I said apples. I like apples

T. Ok. Hands up. We'll come to Kevin
- Eh, eh, I think (.) I forget what I was going to say

T. Ok. Will I come back to you? Ok. Colm knows....
- If I was Adam and Eve I'd tell the snake eat it first. If he didn't eat it - I wouldn't eat it. I'd just go back to God and I wouldn't do nothin'

T. Ok. Kevin remembers
- I think, what d'ya call it (.) oops. I think the snake was telling the truth cos if they ate the fruit off the thing they won't fell nothing. They just feeling their actual (.) they just be feeling theirself

T. Ok. Who has their hand up over there. Brian?

- I think the snake said to Adam and Eve to eat the apple so that Adam and Eve would go out of the garden because he was jealous. He wanted to eat all of the stuff

- I think that the boys would have ate the dust and em (.) they would (.) they ate the fruit and they felt as brainy as (.) as a psy (.) a psychologist and em (.) they were brainier than God and he went up to God and he wanted to be his, he wanted to be God so

T. Who did?

- Adam and Eve

T. That's two people

- That's what I think

T. Ok. Who next has their hand up over here, P.J.?

- I disagree with John because they (.) God made them out of clay and then he put all the rest of the things (.) all the rest of the body parts in and bones and blood and stuff and then he said when they're dead they'll turn into dust

- If I was Adam and Eve (.) then I would (.) if the snake told me that then I would go and tell God. And I wouldn't listen to him

- Miss eh (.) I think eh (.) Adam...

T. You think what, Darren? Think what you're going to say

- Adam and Eve, they want to go up to heaven and eh...

T. They were in heaven

- They were up in God. They be with God all the time up there

T. OK. Next boy who has his hand up, Stephen?

- I think I know why God (.) I think I know why the serpent (.) I think the serpent worked for God and then he told them to eat the apples so God will make them go out of the garden and then God made more people and the serpent told them and then he made more, he made more and the serpent keeped telling them so they'll go out

T. But why would God do that? Why would he want to hunt them out?

- I don't know

T. Ok. Ricky had you your hand up? No? Ok Are we coming to the end or is there somebody still?

- I think that the snakes already knew that (.) I think the snakes already ate the apples on the tree and God put them somewhere far and then they got back to tell Adam and Eve to eat them

T. Right. Jordan

- I agree with Colm cos em I'd em (.) if I was Adam I'd say to the snake. I'd say "You eat the apple first"

T. Ok. We're all going back to have our lunch

- I think that God just made them out of the body, just took out things out of the garden and made them and when they die they'll go back in

end

Script Eighteen

The First People

T. The creation of people, all right P.J let's have your ideas

- Supposing God (.) he just did it because he was lonely (.) he just made people because he was lonely (.) and he just wanted to take care of the animals

- I think, what you call it, God made the people on the planets and then he made worlds and then he made earth, and then he put the people on earth so he could have peace

- I agree with P.J. because God might be lonely and that's why he might of made people

- I agree with Kevin, cos it might be (.) cos God might be lonely and he probably wanted (.) oh wait now...

- That wasn't mine!

- I think God made people because he was lonely and there was nobody there and then after that when he made two people and then he made more and more and then more

- If God made our bodies first, how did he put in our noise box (.) {or our brains} {or our hearts} and I know why God wanted us to stay on earth so to think that we're ready to be up on heaven

- I think that people were made and God just gave people all their stuff to make them walk and everything

- Miss, I think he didn't have enough things in the world and he made people

- I think when em God made em (.) he was bored and he made one person and he kept on making people then he made the world and then he started making countries

- I think, Miss, God made a baby and the baby grew and then the baby had a baby

- I think that if God made us out of márla or clay how did he put our hearts in? (.) if there was sticky all over us(.) and if he put our hearts in we could just open it and take it out and rip it apart

- I agree with P.J. God could have been lonely and made people

- I agree with P.J. that's why God might have been lonely and might have made people

T. Start again Wayne

- I agree with P.J. as well, he said if God was lonely (.) if God was lonely (.) he could have making people

- I agree with P.J. too cos he could have made people too cos he didn't have more

- But (.) I know how (.) I know how God made more people. He made a small baby and he made a big Mama, the same as our Mama, and he putted a baby in her and he covered it up with the skin and then he putted it down and he made loads of people and they 'came doctors and then they might have took the baby out

- Miss, I disagree with Stephen cos how do you know its going to be a girl? (.) And eh, and eh, why did God make us anyway? Was he bored? Was he sad?

- I agree with P.J. I think he wanted to make people because he was lonely

- I think Colm's question was very good, he said was God bored and so did P.J. and Jonathan sat that and I also agree with Kevin, because Kevin said he thinks that maybe God put people there to take care of the animals and I would add on to take care of the planer as well

- I agree with Jordan he said (.) he said eh…

T. You just tell us what you think

- Miss, I think, eh, he made people because maybe God was eh, maybe lonely up in heaven then he made eh, eh, people (.) and they how are they supposed to make 'em outa márla. Where are you going to get márla that time?

- I've a question. How did the machine make wood or did God make wood?

- I think God only used his powers to make people and he might have….

- I agree with Colm because how do you know its going to be girls, maybe it could be boys? (.) Or maybe it could be both of them

- We're back to the start

T. Back to the start. Do we want to go around again? Ok. We'll start

- God didn't make wood. Trees made wood

- I disagree with Sean cos, what d'ya call it, God didn't make wood it could be what d'ya call it, machines (.) I think that's how they made trees

- I disagree with P.J (.) I mean I agree with Jordan

- Yeah well I agree with P.J.

T. Tell us what you think. Tell the circle
- I think its just márla
- I agree with Anthony as well, cos it might be Marla
- I think that...
- How did God make the world? He couldn't cos he was born and he had no powers when he couldn't make the world. It was made already when he was born
- Miss I agree with that. Who gave birth to God (.) Miss? He couldn't have just came out of nowhere
- Em (.) I've got a question (.) Why didn't God make (.) When God was born how could he make, make people when he had no clay or nothing yet?

T. Ok. Will you pause there please? Why did God make two kinds of people?
- Why did he make two? A man and a girl. That's why, maybe they be small and they grow up and get married and stuff
- I disagree with him cos they mightn't want to get married
- I disagree with Darren cos they (.) cos if they want to get married...

T. We're asking a question, maybe you've forgotten, why are there-why didn't God make just one kind of people instead of two different kinds, boys and girls? Why didn't he just make one?
- 'Cos if he only made one there'd be only one type of everything in every country
- I think God should (.) why should God make one of each person cos then people couldn't get married (.) they'd have to get married to a boy or a girl would have to get married to a girl
- I disagree with Darren because if you eh if everyone was the same you wouldn't know who was the bride and who was the groom getting married
- Why didn't God make just girls all the time or else boys? And if he made boys (.) the there'd just all boys talking to each other in every place in the world
- It might be God just making a load of boys and girls...
- If God didn't make girls, one boy would have to act like a girl and the two of em have to get married

- I know who came first a boy or a girl. A girl came first cos in Adam and Eve, Eve came first and then God made the boy and...
- I think that God made one boy and then one girl and then they grew up and then they got married
- Miss, if there was two men (.) if there was two boys and if they grew up and if there was no girls they'd have to get married to each other
- I wouldn't like to be with girls at all cos they be acting pure weird and if you were a boy you wouldn't be acting weird at all because when you're a girl you be having friends and you be like that with 'em and when you have boy friends you be playing chasing and stuff and when you play hide and go seek with girls they always follow you
- I have two ideas Miss, God could have just put boys on one country, girls on another, boys on one girls on another (.) and another one. Craig, I disagree with you because if you were a girl (.) cos you couldn't be a girl cos girls (.) cos there's no girls named Craig
- I disagree with Craig too because he said that if you were a girl you'd be linking your other girls and with all boys you'd be able to chase around and all the girls would be following you everyplace and if you went into the house they'd follow you in.

T. Ok pass it on...
- If there was two boys in the world they couldn't play hide and go seek at all because there would have to be a different boy on (.) and all the boys would be the same...
- I agree with Stephen cos if there was a girl called Craig or Brian or Ryan Courtney or someone it wouldn't make no sense and they'd have long hair and their names would be something like...
- Miss, I agree with Craig, cos he said when we'd be playing hide and seek they follow you in and if you go up in your bedroom right...

T. Ah now Darren
- What if they were called Stephen and Craig and they'd be going out with each other. Stephen be a girl and Craig be a boy

T. I think that's different because if there were no such thing as girls and boys there'd be no such thing as going out with each other or as getting married so that wouldn't

come up at all and the other thing is I don't agree with Craig. He said that girls act weird all the time and don't play chasing. I know plenty of girls who play chasing I can see boys here acting really weird so boys act weird as well; plenty of them in this class

- I disagree with Christopher cos Eve didn't come first. Adam came first
- I disagree with Craig Burns cos they mightn't follow you when you go into your house, they mightn't follow you playing hide and go seek
- Miss, I disagree with Craig (.) because girls do play hide and seek, girls do play chasing. That doesn't make sense
- I disagree with Christopher because Adam came first and then God just saw Adam was lonely and he put Eve on
- I agree with Craig Burns. When I play hide and seek with my sister she always follows me and I'm not on she's on and she thinks I'm on but I'm not on and she's on
- I agree with P.J. (.) (knock on door) I agree with Craig Burns because girls are always chasing after you when you're playing hide and seek
- I agree with Craig too cos girls always chase after you playing hide and seek and I have a question (.) I know who was God before God was born, Adam and Eve
- If you're playing hide and seek and if all girls were on I know (.) Troy, me and Vincent and Jamie my friend, we always know a good place to hide
- I know who we (.) we really are cavemen, cos cavemen were there first
- I disagree with Craig cos girls do play chasing and they do play hide and go seek
- When you're playing hide and go seek and all the girls are on me and my friend be always hiding down in the shop and we be asking our Mammies can we have money and we always stay down in the shop
- Miss, I have two things to say. I agree with Craig cos if he (.) cos I know (.) Cos my brother's friend used to live in our estate, his name is Jesse and my cousin's name is Jessie and (.) and if God only made boys, boys wouldn't know what girls was
- I disagree with Craig because if they went down to the shop and they stayed there and the girls were still hiding and they went up and asked for more money and they went down to the shop again (.) they'd go in home and they wouldn't play again. You'd knock on their door and they'd say, "I'm not coming out." So if he does it another time they'd never come out again

- Say if you had no girls (.) You'd have no Mam either cos your Mam was a girl when she was small
- If you had no girls you'd have no Mams cos girls are Mams
- I agree with Stephen, cos he said if there was no girls there wouldn't be no Mams
- Girls, they don't care (.) it's the same thing
- If there was no girls and you grew up you couldn't have a girlfriend
- I agree with Anthony cos if there was no girls you wouldn't have no girlfriend and when you grew up you wouldn't have no wife or no nothing and em, and you'd have to earn money to get a house and you'd have to pay all of it off by yourself and you'd have no money for yourself
- I agree with Anthony. He said when we grow up we'd have no girlfriends and eh, I might (.) I agree with two people and that's Colm and Craig

T. Ok pass it on

- I disagree with Anthony cos if there was no girls you'd have to have a boy for your girlfriend
- If there was no such thing as girls you wouldn't have any Mam and then they you'd be able to do anything you want
- Miss, I think Mams are important cos there the first person you saw when you were born so they have to be important
- I think I disagree with John, cos if there was all boys we wouldn't know who girls were
- I think Mams are important cos when you fall they put a plaster on you. Then if you fall again, what d'you call it, and you get a cut all up there then you have to sit down and she'll give you some medicine and that's why she's your Mam
- I agree with Kevin cos every time you fall you cry and go into your Mam and she gives you a plaster

T. Ok

- And if you broke your hand and if your Dad was dead (.) who's going to bring you to hospital
- If there was only one boy in the world and that was me. First thing I'd go for is all the wrestling men. The I'd go to the bank and get all the money and then

I'd go to the shop and then I'd go to get (.) then I'd go everywhere I want to and then the playstation...

- I think that boys and girls came out at the same time cos how will you Mama know which will come either
- I think your Mam is the most important thing in your life cos she's the one that made you come out and she's the one that always cleans up and she's the one that cleans up the house when you have your dinner and everything
- If there was no such thing as Moms, there'd be no such thing as us

End

Script Nineteen

Thunder, lightening, rain, wind, storms etc First Class

- I think wind is air that's moving and thunder is just rain and lightning
- I agree with John because wind might be only (.) air (.) blowing

T. And what makes the air move, Jonathan, do you think? Jon? What's making the air move, to make the wind, do you think?

- Em, something up in the sky

T. Like what might it be?

- It might be like spring

T. Like spring? Ok. So Jonathan thinks, -guys did you hear that over there?

- I couldn't cos he was talking

T. I think, I think if you were listening, if you weren't speaking over there you would have heard (.) Jonathan said he agreed with John. And I said "what do you think is make the air move?" and Jonathan said that is was something up in the sky, like a spring

- I think I know what's making the air move. It's God blowing it (.) rain is God watering his garden

T. I'm sorry. You're going to have to have to repeat all that because of that boy there and this boy here. "I think I know what's making the air move" (.) right?

- Its God blowing it and anytime the rain comes it might be God watering is his flowers and the thunder (.) is like (.) the zig-zag thing is like God is angry at someone and he's throwing it

T. Throwing what?

- Throwing the ah (.) zig-zag thing like it gives someone electric shock and it makes someone be like what he wants em to be like
- Miss I think he be eh washing himself and it be falling down. When thunder comes then its all eh like there's loads of stuff failin' and eh...

T. Ok. I'll pass because I'm not ready to think yet I'm writing too quickly

- I think I know what the wind is moving like cos eh the wind up above, the slow wind in the sky moves fast and...

T. What makes it move fast?

- Its like a pipe coming down and it blows the other wind slow (.) slowly

T. Just one moment. We need to listen now, so no reading books (.) John?

- I think the thunder comes down cos they're having a big huge bonfire up in heaven and all the sparks and all the fire is coming

- When I was a kid I thought something very funny. I thought that when someone said a curse that was (.) and it started raining (.) that was God crying because someone said a curse. And I agree with John, with John Paul because the lightening might just be caused by he's having a (.) a bonfire
- I agree with P.J. and John because I thought that every time someone said a curse that was God crying and then they were (.) and then they were having a bonfire
- I know why thunder (.) that's why God is moving all stuff and the clouds are bashing and thunder is in the clouds
- I agree with Craig Hourigan. It could be God watering his plants and some of it fires coming down
- Why is God making thunder and what if your Mama was walking down the road and she got electrocuted by the thunder?
- Miss, I agree with two people and that's Darren and em Craig H cos em, cos em God might be watering his flowers when its raining and then he might be having a shower as well. And em, I think how lightening happens is he drops something and it makes a big huge splash
- Miss, I'm just thinking about something there because when me and Ryan and our friends were out playing football, there was loads of bangs of thunder and we thinked its God's footsteps
- I kind of disagree with John Paul cos it its (.) if (.) know he said wind (.) how could fire make wind and he's saying fire was dropping down
- It's a big tank and there's all blood in it and the blood be floating down on the clouds and the blood goes through the clouds and the clouds make the blood white
- I have two questions. I disagree with Anthony cos …

T. With Anthony?

- Anthony Dennehy (.) cos if the blood came down from a tank it would come through something and make it very yellow. That's why cos God has something up in the sky what makes it turn yellow and it goes through something and that's how it makes it turn yellow
- What d'ya call it…

T. I'm sorry (.) louder please

- I know how God makes flowers cos when he's watering his flowers the rain goes down through and then when the sun comes out the rain turns into a big huge cloud

- I know how God is making the water. He's washing his hands and when the water is coming outa the tap, it's going down the drain and that makes rain
- I know how God makes the rain. Two clouds mix together and all rain comes down
- I agree with Greg cos two clouds might beat together and might be making rain

T. We're back to the start. Do we want a round or a Hands Up? Ok, John?

I think I disagree with P.J. and John Paul because it definitely isn't a bonfire cos, come on. I would burn all the clouds (.) a bonfire would burn all the clouds when they would come out (.) and God doesn't cry. And so I disagree with P.J. cos God doesn't cry

T. Do you think God cries, Jonathan?

- No. I think he's only washing his hands and there's water falling outa his hands and the water is coming down out of his hands

T. Right. I'm going to ask a new question now, we've got around to what ordinary rain is but what about a storm? Craig, what might a storm be with the really really hard rain that comes with it?

- It might be all hail stones gathering together. And that's like tons of bees make kind of eh, electric things...

T. Tons of bees?

- Yeah, like they put all their tail together to make electricity. That's what I think it is all hailstones going together and eh...

T. And what about snowstorms? I know we don't get them in Cork, but people do get snowstorm. What makes them – and hurricanes and tornadoes and typhoons and all these things?

- It might just be the clouds that makes the snow, just pieces of clouds falling down with air blowing through 'em...

T. Pieces of clouds (.) that's what the snow is?

- Yeah eh and the air just might be the wind blowing oxygen and eh the rain is just all inside of one big kind of bottle and God just brings it all down

T. Darren, what do you think?

- Eh, Miss, I think its all eh, snow falling down from eh, all the sky and all the clouds (.) I think its all the clouds falling down and its making snow and loads of stuff on it. Then when its rain (.) rain and eh, when its eh, going to start to rain then its going to lash. When its lashing then it just get hot (.) faster and faster and eh, faster and eh, that's it

T. Right. I've a question here. Why do (.) why does awful weather happen more in some places than it does places? Like, we don't get twisters and we don't get typhoons and we don't get tornadoes and earthquakes. Why is that? Why are we so safe, do you think, Ricky?

- Em, cos nothing comes and I've a question. When its near the clouds, the wind, and its very cold all the rain what's coming down turns into little balls and that's how it makes hailstones?

T. Right. Could I stop him there? This is the second or third time that a boy has said that he has a question. Well, to me a question is asking for information like how does something happen? Or why does something happen? Or where does something happen? Or where did somebody go? What if (.) but Ricky didn't ask a question, he made a statement, so there's a difference. Kevin, you did already. When you're telling us some information that you know, you're making a statement or you can say I want to say two thing. But if you say I want to ask a question, then you have to start with a what or a why or a how or a when or a where. Do you understand the difference? So don't say I have two questions if really what you have is two statements or two things to say. Alright? Now, John Paul, we're coming to you next

- I have something to say about the rain. I think all clouds are (.) there's two clouds and they're sucking up the rainbow water and they're spitting it all down again
- I disagree with John Kiely and Sean because have they ever heard of something called God's flowers

T. Have they ever what?

- Have they ever heard of something called God's flower staying up on the cloud covers and fire can make thunder, Sean, because all the sparks…
- I have two things to say. I disagree with John Kiely because how do you know that God doesn't cry How do you know that he don't do it somewhere? And, Miss, what did you say again? I think I can answer your question

T. I said why do some places get such fierce awful terrible tragic weather, like in Mozambique? They all had such awful rain it was like Noah's Ark and people actually died. Why don't we get stuff like that? Why don't awful things happen over here?

- Because, like just because we don't have don't bad weather sometimes like thunder and lightening cos we have that sometimes
- I think when it all hailstones, people have showers up in heaven and eh its God blowing wind

- Miss, I have something to say about the rainbow. I know how God made the rainbow. Cos when Cain was alive he killed all people then he killed all people again and then he started off all over again…

T. Well wait now, that doesn't explain the rainbow

- It was Cain. It was Cain. Cain found (   ) so near God

T. But why did the rainbow (.) sorry, you said something about a rainbow. Where is the rainbow?

- Eh

T. Are you mixing it up with the story of Noah out in the Ark and God promised that he wouldn't send the flood ever again and he put the rainbow in the sky as a sign? I think that's what you're taking about. Right, I'm just going to pause here for one second because I've got to change my paper Wayne?

- Miss, I can't

T. Pardon

- I can't make up one yet

T. You can't think of something? Ok

- I disagree with John Kiely because eh (.) when they're having a bonfire night the smoke don't make the clouds go black at all. When clouds come its because its telling you its going to lash (.) lashing

- Miss, I agree a bit with John Paul because when (.) God makes rain when the sun comes out. And then God takes the rain back up. And then (.) and I think that em (.) that's good cos there was no such thing as sun it'd be em, all dark all the time. And em, I think I know how the wind is happening cos God is em, snoring and the people (.) Anthony Den (.) Anthony Long said em, that em, If God, if God was em, tired with his back he'd be blowing on the ground and there'd be more eh, wind

- I think when thunder and lightening comes God and all the souls are having a feast

- I agree with Greg cos it might be God when he's tired, Miss cos there mightn't be no wind

- Em, if there was no wind (.) if there was no wind you couldn't breathe at all cos there'd be no air and you wouldn't have to breathe at all

- If (.) I think if you were walking down the street and something pushed you back, that'd be a tornado cos the wind can't push you back that far like that even like…

- One day I found a metal bar and I found a, I found a rock and I hit the rock with the metal bar and sparks...

- I think I know how storms come. Heavy wind that blows everything and that's the storm

- Miss, I think I can answer your question cos I know how we don't get bad weather cos we're kind of in the ocean

- Em, I think it's the sun giving is (.) I think it's the clouds that are giving us a warning that when the clouds go black it makes it rain. Miss we're back to the start

T. Ok . Hands up. So (.) John?

- I've got two statements. I know why we don't get terrible weather. Cos we're not in the middle of the country like Kansas. And I know how God makes all different kinds of weather. He's got a cupboard full of all jars of storms and rain and sun (.) shines and then when he wants it to be sunny he just takes out the jar and throws a little bit out.

T. Hmmm. Nice idea isn't it? Have you your hands up, Craig Hourigan? Oh (.) shh, shh

- I know why we don't have storms...

T. Sorry, excuse me – wait for silence. Now I think...

- (.) and eh, he might just hate the other countries and he just might want just to do it because eh, he just might, he don't like 'em because there be loads of robberies (.) and something eh, then he eh, God (.) then when he wants to stop them when nearly his when nearly his power is down he just stops

T. So his power runs down like a battery?

- Yeah

- Miss, I think the (.) I agree with Craig there (.) he said eh, when eh, God runs out o'batteries he eh, he can't do any more eh that the sun go away then when it be away far it be all red and eh, it be like a house and eh like it's a house eh, light

T. Em, I disagree with Craig Hourigan, I have to say. I think that God loves all people. I don't agree that he could hate some people cos there's innocent children over there too and innocent babies (.) and you couldn't hate them. And there are robberies and bad people in Ireland too so I think it might be some other reason other than what Craig said but I don't know what the reason is. Now (.) John Paul. Just taking 1,2,3,4,5 (.) that's it ten (.) John Paul

- I think I know how the snow comes down cos its all really light hailstones

- I think that em, this is what confuses me. How do the weather people know that it's going to rain and stuff?
- Miss I know that. Its only a satellite tells em that eh the weather's going to come. The satellite just gives a signal to 'em and then it just gives a big picture on the screen

T. Are you happy with that P.J.? A satellite tells them. Right

- I disagree with John Kiely. I disagree with John Kiely cos how do you (.) cos why would God put stuff like thunder and lightening in a jar? How would he get wind in a jar? How would he get snow in a jar?

T. I don't think he had his hand up. Had you your hand up? Right?
Miss, I have two things to say. I agree with John Kiely cos it might be (.) he might just have a jar and stuff. If it's the North it might be coming down north and west or south and eh...
T. That was one thing. What was the other thing?

- Miss, I forget

T. Alright. Wayne?

- Miss. Guess why we don't have the weather coming? That's why cos we're getting summer

T. Oh right. Ok. Colm

- Miss, I think that snow it all bits of the clouds falling down and then when all the clouds are gone there just getting repaired (.) up to God.

T. Right

- I disagree with Craig Hourigan. He said that God only puts the tornadoes into those countries cos he likes us the most and Ireland is the most litterous people in the (.) in the wolrd

T. The most litterous?

- Yeah
- T. You mean for throwing messy stuff? Everybody says (.) sorry I interrupted you. Everybody says what? That we're the worst?
- That we're the worst for litter

T. I think that's right

- I disagree with John cos how does (.) do you know if there's tornadoes in a different country? How does God have 'em in a jar and just leave 'em go like that? I think he just got that from Sabrina (.) with a tornado in it. And eh (.) and eh (.) that's all

T. That's plenty. Have you your hand up?

- Yeah. I know how God makes hailstones
- Oh Miss – I've a topic

T. one second

- He puts the cloud down and all the cloud splits up and makes hard stuff and that's hailstones
- I disagree with John cos if there was really strong wind in a jar, it might break the jar and run out
- I disagree with John as well because if he had stuff in a jar how could he get it back in if it was already gone?

T. Ooh, Good one. John, do you want to respond to that?

- Miss. He hoards them in a jar and he lets them pop out and after they pop back in again
- I think he means when he throws the wind out eh, another one will come back up and come back in the cupboard
- I disagree with John Kiely cos if God (.) if God keeps the weather in a jar how does he keep stuff like wind in a jar? It would go straight though it. And stuff like the sun (.) you couldn't put that in a jar. Cos It would mush the jar
- I disagree with John cos that's why he said that God puts all the snow in a jar and all the wind…

T. Thank you John. You've given us great topics for discussion.

- They all disagree

T. Wait a minute. But isn't it wonderful that you've got all these boys thinking about what you said

- But they're all disagreeing

T. Begin disagreed with isn't a bad thing. It's very good. It's controversial. Ok. I know (.) look at them. They're so anxious to talk. Craig Burns?

- If he eh, if he eh (.) John he could have put a safety lock on it. How do you know? It could be strong and it could break through it (.) how do you know?

T. Now John. You don't have to reply each time. Ok Greg

- I disagree with John cos if he kept the sea in a jar (.) its bigger than God its way too big. Three earths could fit into the sun
- Em. I disagree with John cos if you put a tornado in a, in a glass jar (.) and you put a lock on it (.) its too big because it would just break off the safety lock

T. Poor John

- He has them house trained

T. He has them house trained, John says. OK. We'll finish there, Wayne wants one more go, Wayne?

- I know how clouds came through They could be somebody dead and they could be a hole and the clouds could have been blocking it

T. Ok. Is there somebody who desperately wants to say something?

- I think (.) I disagree with John because If you put snow in a jar it would melt if it was next to the sun

- John? D'you know you said he throws the jar down? The we'll see the jar opening

- Yeah. It just goes the clouds it opens and then the wind blows down and then when it rains it goes back up again

- Miss, I disagree with John as well cos if you put the sun in the jar the sun will burst it cos its too hot and em, it will melt it as well because if you put the sun next to snow as well the snow will melt in the jar cos the snow needs cold to keep it (.) keep it cold

- T. Maybe he keeps all his cold stuff in his cold fridge and his hot stuff in his (.) hot house

- Miss, I agree with John

T. Aah! Well done. You agree with John. John is relaxing

- I disagree with John

T. Oh poor John

- How could he get a tornado in a jar? Tornadoes can't even see cos they've no eyes and they can't talk

- Can I just say one small thing? I disagree with John cos where did he get the jar?

- I agree with John (.) Miss. I agree with John now cos he can..John..he don't have 'em housetrained or anything (.) all he does is just make his magic to make 'em go down and make 'em go up

- I disagree with John cos it might be drawers and they might be made out of metal and there might be all buttons to press

T. I want to know John (.) do you mind when you say something and lots of boys disagree? Does it matter?

- No

T. Hands up anybody who gets offended if (.) is there any boy who gets offended if somebody says "I disagree with you"?

- It hurts me

T. Really?

- I like it when they disagree with me

T. Why?

- I just feel happy

T. Do you have any idea why it hurts you P.J.?

- Miss I think (.) em (.) I feel sad because you're after thinking that . You're after being sitting down and waiting your turn until it comes to your turn and then you are after being thinking for ages and then they say "I disagree with you"

T. Right. But do you think they disagree with you or do you think they just disagree with what you said?

- Yeah, but you're after being thinking a long time and they be thinking as well and they might feel sorry as well

T. Right. Ok. I never thought of that.

end

Script Twenty

Seasons   First Class

- I think we need seasons so we can have stuff like Christmas and Easter
- I think that we have to have changes of seasons, otherwise the hibernators would either never get to sleep or else never get to wake up
- If we had no seasons it would be staying warm all the time. That would be bad cos if it would be hot all the time and you wanted cold there would be no cold there
- I think we need just three seasons for flowers; summer, winter and spring, because that makes flowers grow healthy and makes ' em grow in people's gardens so they won't be dying all the time
- In autumn all the trees grow when their leaves start falling off
- If we had winter all the time it'd be Christmas nearly every weeks and if we didn't have the four seasons and no summer then school would never be closed. And if we didn't have spring the flowers wouldn't grow and if we didn't have Autumn nature couldn't rebuild and if we had spring all the time the flowers would be just getting bigger and bigger
- Miss, I disagree with Craig H because you'd have Saturdays and Sundays off school and there's such things called bank holidays. I think you would need April and stuff (.) spring (.) cos everything needs to get new and you definitely need summer to play outside with your friends
- I think if you didn't have winter you wouldn't be able to get toys in December
- I disagree with Wayne cos if there's all cold weather then you'd have plenty of rainfall and you'd never run out of water cos if not, you'd have no taps and no drinks
- If you had no sun it'd be dark all day and if you had no moon it'd be morning all the time
- Miss, eh, I think , eh, spring is, eh, trees all be growing and all the eh, leaves is new and then they be fallen off
- Miss, know if flowers were in summer all the time. Well they would grow and grow and grow and we'd all be like a jungle
- I would be bad if there was only one season

T. Why? Which one?

- Like, any one really. How about people's birthdays? If there was, say, only spring, then the people who have birthdays in summer, autumn and winter would never have been born

- If there was no winter and people's birthdays were in winter then they'd miss their birthday and in autumn trees don't grow, Anthony, cos there's leaves falling off it and the tree needs to take a rest

- I disagree with Jonathan, cos if the flowers were growing all the time they would need rain first and we get rain in winter but hardly ever in summer

- I would like if it was all sunny first for along time and then a bit of rain after it. You'd know where you were (.) what would happen next

- If there's no such things as seasons, then we don't know when its Christmas or Easter

- I think that if there was no such thing as seasons then all the flowers wouldn't be able to grow

- I disagree with John and I agree with Christopher because I think, John, that if the people's birthdays were in November and that was gone then they wouldn't exist and so we wouldn't feel sorry for them. And the Christopher, I agree with you because if they never got to sleep or if they were asleep al the time then we'd never see any animals that hibernate

- I disagree with Jonathan cos if the flowers keep on growing people would just cut them and I agree with John cos if someone's birthday was in February and all of a sudden everything changed and there was no more spring then, they'd never get any older, they'd stay babies all the time

- If there was no such thing as the seasons you would never have a different year cos the seasons are what makes the year pass

- Craig, I disagree with you, cos if everything suddenly changed the babies would just have a different birthday

- I disagree with you John, cos even if you birthday was every four years, we could still celebrate our birthday

- John, I disagree too, cos if it was spring or summer when people were born and john said they'd never be alive (.) I sort of agree with you P.J.

- I'm having a time-going-backwards-feeling, they're all disagreeing with me again

- I agree with John cos maybe time is going backwards

- I agree with Stephen K cos if there was no seasons there'd be no Christmas or Easter

- I forgot who I was going to disagree with

- John, I disagree with you cos its not possible for time to go backwards.

- I didn't say it was going backwards. I said I was having that feeling. Anyway what about time machines

- I know how to make time go backwards, just turn the clock hands back.

End

Script Twenty-One

Earth   First Class

- I think that the world is made out of márla, blue márla with bits of green stuck onto it
- I agree with Colm cos it could be bits of márla
- I agree with Colm as well cos someone could have just made it with márla
- I think God, eh, got a big piece of (.) a big piece of clay (.) right? (.) Blue clay and green clay and all sorts that makes colours and he might have made all the clay into worlds (.) now just say he made small little balls of clay and he might have just shapin' it, eh, and he might have just getting new bits with wrinkly bits of all the countries
- I think he might have got márla and painted it and the put it on
- I think God might have just using his powers to make the world
- I agree with Alan cos it could be that God is just using his magic
- I think that God got special ingredients like blue stuff and pink bits that he put in a mixer and stirred it all up and come out in a big huge ball
- I agree with Alan and that it could be God that was using his magic powers
- I think that he made dinosaurs and then when they got up out from the water and went onto earth, their DNA spread into the world and then we came
- I think the world is made out of clay and God could have making it and he could have painted it
- I agree with Craig cos maybe he did make it out of clay
- I think that its not fair on God cos he used all his powers trying to make everything
- Miss, can I ask a question? Why can't the world be a triangle or a square?
- I think when engineers, when eh people went into college when they wanted to be engineers, I think they builded it
- I agree with Alan cos it is, it might be God using his magic powers
- I think its, its not God its, em its (.) if he built a whole city (.) different places (.) I know its not cos eh, people were on earth because know (.) in this life if you fall down on something yacky or sticky…
- I disagree with all the people (.) I disagree with all the people who think its márla and clay that God used to make the world, right? We can see glass and all the work and blocks (.) and then if you touch it you realise that it isn't márla at all…
- I agree with Alan cos it could be God's powers

- I think I agree with Alan because maybe it is God making it all using all his powers
- I agree with Alan as well, it might be God's powers
- I agree with Alan as well cos it might be God's powers
- I think that's not right that's why its all muck and its eh be getting all muck somewhere he, eh, made it and he gets trees from somewhere and maked it for this country

T. It's my turn to talk. I agree with Alan and with Troy that God took stuff (.) no I agree with Alan that God used his power and I agree with Troy that its not márla cos you can see it as he said and you can feel it and if there was "márla-grass" cows wouldn't eat it and I also agree a little bit with Eoin...

- Why isn't the world made out of rubber so when you were dirty you could just rub yourself off the wall and you'd get clean?
- Well, I think I agree with Alan cos he used his powers much on making us and making the world
- I think there was lots of planets and they all crashed together and made us
- I agree with (   ) cos I think the world was made out of clay...

T. Can you speak up, please?

- I think that em God wanted to see for himself whether he'd got the hang of making dinosaurs. Then he got he hang of making us so then he made the world for us and I agree with Alan

T. Any ideas?

- I agree with Alan, cos he used his powers
- I disagree with Troy cos God made us out of márla and we don't be (.) be (.) we don't feel like márla

T. He made us out of márla?

- I think we are made out of márla cos that feels kind of squishy
- If we were made out of márla we could take off parts of our bodies

T. Can I ask, I just want to ask Colm a question. Colm, can you explain where you got the idea from that we were made out of márla? Is it because we made beings out of márla?

- No, because I got it out of the (.)I got it out of the Holy Bible

T. márla. It said he took clay, I think. It was talking about clay from the ground rather than márla

- Member God said (.) member God said to Adam and Eve "You were made out of dust and when you die you'll turn back into dust"? So, we can't be made out of márla

- I agree with Troy because when you do touch something or else when you slide on something and hen you can see where I scraped it (.) look. I don't feel like márla at all

- D'you know when people get rolled over? Em, if you're márla you'd just get flattened and then you'd be able to get up again

- I agree with Daniel cos it might just planets all crashed in together what made it

- I disagree with Colm. It might be just all painted stuff and we just might be made out of dust like Adam and Eve

- I disagree with him because he said it could be (.) it could be...

T. Do you want to think about that for a minute? Shane?

- I agree that God might have used his powers

- Before God made the world he just made dinosaurs first and then

T. But where would they be? Floating in space

- No, he might have got dinosaurs...

- I know how, why God made the world cos if he had loads of things and all different (.) he's an inventor. He made the world and he made us so he could look down on us and we'd have to be good

T. So he made us kind of for entertainment for himself? What about who made God?

- I think I know how the world got made

T. You do? How?

- It was just an extra planet coloured green and white and it had no name and then It was an extra planet and then God made people and put them on the planet and called it earth

- I think I know why God made earth and space cos maybe he was bored and maybe he wanted a world and he made people and made creatures and loads and loads of creatures as well and maybe he wanted us to make things

T. Thank you. Did you hear everything that that boy said? He said that maybe God was bored

- I agree with you and with that other boy said

end

Script Twenty-Two

Space, Planets, Moon, Stars   First Class

- What if you could fly up and touch stars

T. Why did God make the planets do you think?

- For the people to live
- If God didn't make the world we wouldn't be made
- I think that the planet Mars is so near the earth (.) why wouldn't the aliens come down to us
- I agree with Ryan, cos everybody knows the earth is near Mars so why don't they?
- What if you could just fly up and touch the end of the (.) the end of the world?
- If God didn't make the planets we wouldn't all be here
- I agree, God gave us the planets to live on
- I don't agree with Darren cos if you flew up to the stars and touched them you hand would be gone
- If aliens landed we would have seen them
- I think that the planets are <u>very very</u> far away (.) and we have to think really carefully about whether there are people on them
- I disagree with Ryan co earth is near to Mars but there's no such things as aliens, so aliens won't come down here
- The aeroplanes won't go up that far at all cos up there the aeroplanes be floating around and the aliens might be up at the window looking out of their spaceship
- I disagree with Troy cos if you went there anyway to those planets you wouldn't live cos there would be no houses and if you went to Mars there would be a load of aliens there
- I agree with Kevin and I disagree with Ryan, cos there's no such thing as aliens, not a thing
- If aliens were real then they would have come down by now
- If they came down, they would go "glug glug" and then they'd zap you
- I agree with Craig cos they might zap you
- I agree with Craig too and I agree with Wayne its near Mars and maybe there...

T. I agree with the Cigire. Maybe we do need to think more about whether there are actually people on the other planets

- I think up in space there's loads and loads of aliens and maybe tonight they'll come down to you bedroom to say "Hello"
- I agree with the inspector. Maybe there's no people on the other planers, now (.) they could all be dead (.) by now
- I disagree with the writers who made up stories about aliens cos how do they know if aliens are really there? They never saw them
- I agree with Craig H because the can zap you (.) and they can zap you into aliens
- I agree with, um (.) I disagree with myself and I agree with Craig cos they might zap you

T. You disagree with yourself? Why, what did you say first?

- That there might be different people in the different worlds (.) different planets

T. Ok lets stop there and see if we've gone off the point. The first question was Why do we need the planets (.) do we need the planets? Why did God make the planets?

- Like, do you mean what are stars for? People what are dead, they turn into stars
- I think that on Jupiter people are made out of mushrooms

T. Do you really?

- Yeah, I saw it on telly that, um, on a cartoon, a load of people were orange and made out of mushrooms and they came from Jupiter
- I don't think there are aliens at all cos there's no such thing anyway
- I disagree with Craig cos aliens don't have guns
- I agree with the inspector, cos how do we know that there is aliens? And I think before we could touch the star we should know how we can get the star
- I had a dream once. I dreamt that all aliens came and woke me up and they were all looking at me. Next thing I woke and there was this huge big fellow there

T. Sorry, we can't hear P.J.

- I think that there must be people on other planers cos some people go up there to look for life on other planets (.) to find out where they are
- I agree with the inspector cos how do you know that there's aliens? My other thing is that I think that the stars and the moon are for bringing light at night
- I agree with Craig cos the would really zap you

- I don't agree with those boys who are saying that the aliens would zap you all the time. We always think that aliens will do bad things and zap people. Where did we get that idea from?
- People on Mars are different, like, from us. They might have different faces and if one of us had the same (.) if a person looks like another person on Mars, what would them two do? Could the swap?
- I wonder (.) if you could go to the zoo up there...
- There's no such things as aliens now but maybe there was aliens very long ago and when we were born they were dead
- I've got two things to say: I think I know what the stars are for (.) decorations. And once on cartoon heroes they went into a big circular spaceship...

T. Nobody has yet answered the Inspector's question. Where did we get the idea from that aliens were bad or the there are aliens?

- A star could kill you if you didn't know. You have to know how to handle one to get one

T. Well how would you handle a star?

- You'd have to get a book on it first

T. You'd have to get a book about handling stars? Where would you get a book like that?

- In the library, and then, eh, if you did anyway it would tell you how to handle them with a net (.) f you could just get one
- I can answer Craig H's question (.) cos you might get a kind of plastic thing to protect you hands (.) to get the star off cos they're all jaggy at the edges
- I agree with Craig too because you might be able to get the star with a net
- T. I still don't know why we need (.) where we got all the planets from or if we need them. I think I agree with John Paul that we need them for light at night

Hands Up Session

- I think that the worlds that are very far away from us (.) the planets (.) some of them are already blown up and some of the pieces are stars

- I think we need stars from back when Moses and God were born. Cos that time some people were very poor and made houses out of caves

- I know why the moon is there cos that's for light at night

- Miss, I disagree with (.) I know where Craig got the zappy thing from (.) the cartoon what we watched before (.) Zorg (.) he zapped

- I agree with (.) I disagree with (.) I agree with the (.) customer there could be people on planets

- I agree with Craig H cos If you could catch a star with a net the star would just come back out of the (.) box sharp things are all over them

- I disagree with Craig B cos when I was watching the Discovery Channel I saw things moving

- I have two ideas. I know (.) I disagree with Sean cos Craig didn't get that idea from the Zorg thing. He didn't zap anything and I can answer the inspector's question, we get that idea from watching the telly

- When I goes to my Nana's and when I'm sitting there (.) and when my Nana goes out my Grandad leans over to me and he say "Watch out for the JabberMan. He comes out and he takes little boys away"

T. He only comes (.) didn't you tell me that he only comes out when there's a full moon

- Yeah

- I agree with Kevin cos there's no such thing as aliens but people do go up there

- I disagree with Anthony D and I agree with the inspector cos if you went up in space in an aeroplane, the aeroplane would be flying around everywhere and if it landed somewhere (.) I know where Craig got that zapping thing from – from Mars Attacks

- I disagree with Craig H but I don't agree with Ryan O'S cos if stars were in a net they could break out of the bag

- I think aliens are not real cos if you pull off an alien's hat he couldn't be able to breathe

T. Just a minute if they're not real would he have a hat? What do you mean by real. What does real mean?

- Like they don't exist

T. But if they don't exist, then their hats wouldn't exist, either, would they?

- I disagree with Anthony D cos if an aeroplane went up into space it could get hit cos there's all rocks up there (.) big huge ones

- I disagree with Anthony cos if you did make a plane to go up there it can't go into space cos there wouldn't be enough fuel to take it up there

- I disagree with Craig too. How would you get a star if you're down touching the floor?

T. If your down on earth?

- Yeah, how could you get a star? Stars are up in space

- I know what Anthony means about the aliens hat. Know when people go up into space they have an air helmet with a thing up on their back and a thing in their mouth?

T. Well he also said they weren't real

- They could be real cos maybe long, long ago people were in the world and they killed all the aliens when they came down and they took off their hats and they brought one of the hats back as a souvenir, back home

T. Next week's topic has come out of this one. It's going to be what does real mean?

end

Script Twenty-Three

Words and Truth   First Class

T. *A word is dead until it is said*

Some say

I say,

It just begins to live

That day

(Emily Dickenson)

What I'd like you to think about today is – can a word be alive? And (.) if a word ca be alive then can a word be dead? And if it can be dead, can you think of when might a word be dead? So we'll start with (.) I promised John I would start (.) do you want to start John? Ok. Now nice and loudly because the recording has to come out on this. Now John, can a word be dead or can it be alive?

- I don't really think so

T. Which?

- That a word can be dead or alive

T. And have you a reason?

- Because you know that poems don't really exist (.) that they're just words on paper (.) but…

T. Is there ever a time when a poem isn't a word on a piece of paper?

- I don't know really

T. Ok Sean, you said you had an idea

- Miss, if there (.) they're dead cos if there was a word alive you'd see it walking around town if you were in there. Plus if there was a word dead you'd see it with a knife gone through it

- I agree with Sean cos he said if there was a word alive it'd be walking around the street and stuff and eh, if it was dead there'd be a knife through it

- T. There's no other way to being dead?

- Unconscious

- Or else like …

- I know how it could be

T. Tip the boy beside…Excuse me. Remember now the rules. You're forgetting the rules. Tip the next boy

- I think that em when words have around seven letters inside em they stay alive for seven years and they die then

- I think that words can't be alive or dead cos if people just forget words that doesn't mean that they're dead at all. It just means that they've forgotten them and if another person says it then or remembers them

- When you say a word, em and eh, and say if the word was alive it'd just come out of your mouth and run away and then you'd see it in town when you're in town with you Mam or something in the shop (.) he'd be buying stuff with his friends

- Miss, eh, I agree with Craig Burns. He said eh when you're talking in might jump outa your mouth an 'eh, when you're in town with your Mam you'd see it buying stuff with your friends and I have another thing to say as well. How would he run? He has to have legs?

- He could jump on his...

T. Excuse me. We don't have to answer a question until the next boy, tip the next boy Darren

- I think that if a word was alive (.) Say now you were saying the word "me". It would jump up and start going – M – E – that spells me

- I don't think that it does matter which boy that you sit next to as long as they're alive...

- That's not the topic

T. Can you tell me about words. Do you think it's ever possible for a word to be dead? We talked one day about maybe if we all forgot all the words maybe then we could say that all those words were dead or the lady in the poem said "a word is dead until it is said"

- Yeah, I think words can be true because then if words were alive trees would be able to walk

- Miss I was thinking of something (.) I think, Miss if you forgot all the words Miss, and then you said all the words were dead (.) they can't be because you said "All the words are dead". Then you'd be saying some of them. And I agree with every boy in the class who said something because words can't be dead because they're saying them.

- If words was dead why don't ( ) police...

T. Sorry now. Say that properly

- If a couple of kids were shouting and bullying a boy (.) and a girl came along and (.) that's rude she might just write down a story and it might be true and then the person whoever got the book like, might be saying "that's not true".

T. What you're telling me sounds like a jumble of words and I don't understand what that's got to do with people being bullied. I don't understand what you're (.) Just a moment. Do you understand what you're saying?

- Yeah

T. Tell me about the bullying bit

- Like if say there was this bullying then if a girl came along and if she was a writer like, for writing books...

T. Ok. She could write a story about the bullying...

- Yeah and (.) and if the persons like whoever that got the book said "That's not real". No one done that

T. Oh right. And it would be a real story because she saw it happening and she wrote down. I see what you're saying (.) I'm sorry. I was very silly thee. I didn't understand. Now I need you to talk out food and loudly for the tape (.) Craig will look after the door (.) Now Anthony its your turn, Anthony Dennehy?

- Miss

T. Now could we try not to talk to Miss (.) remember what we said about talking to our group

- Boy. Or you could just say guys

T. Yes

- If a word were dead so how are we saying them in the class

- I think (.) if words are dead (.) and you were writing them down (.) how could you write them down with a pencil if they were dead?

- If you said a word and it was already dead (.) how could you say it?

- Boys. I f a word wasn't dead you could see it playing soccer (.) or tennis

- I disagree with Sean because em (.) if you said a word and it was walking down the street and if it got stabbed...

- I didn't say that

T. Ssh, Ssh. Sean, he said. He disagrees with Sean

- I didn't say that either. I said in town

- Then (.) then (.) then (.) do you know he said it was stabbed? Then he wouldn't be really dead like, because it's just like a ghost like (.) I think its kinda like your breath is just coming out of your mouth

- I got two things to say. I agree with Kevin because the writer could write down bullying should stop and then if you (.) if words could be sleeping in you tummy then when you say it, it would wake up

- I think words can be in so many different places. They can be in our thoughts and we can say them and we can read them and we can write them and we can hear them. We can listen to them. They can be outside. They can be in this room. They can be in a book (.) they can be in a book that I've never opened and they can be in a book that I've already read.

- Miss. When we're saying the words now (.) and when we're finished saying them (.) they're dead

- Em. I would think that when a word had ten letters em that had (.) that had (.) that had those lives, ten words

T. Ten letters that had how many lives?

- Ten lives

- And that's the same what I said

- And so ten people could say it an' then it would be dead. And if it had ten lives people who said it two times and it would still be alive

- If words were alive they'd be having birthday parties

T. I'm sorry I can't hear you because Darren needs to listen better (.) Yes Shane?

- Miss, when you talk and you forget it maybe the words are asleep and then when you say it its probably awake...

T. So when you talk and you forget it words are alive? Is it? Or words are dead?

- The words are asleep

T. Asleep

- And then when...

T. When you say it...

- They're awake

T. So you don't think they're dead and alive, you think they're just awake and asleep?

- Yeah

- If the words are alive Miss why don't they (.) I mean (.) if you want to write down on a piece of paper the words if they're alive (.) why don't they talk

T. Now John (.) it's a hands up now for this particular bit

- I have two things to say (.) one, I agree with PJ. because they would jump out of your mouth and say M.E. – that spells me. And eh...

T. Sorry I don't think (.) there are two boys here not listening

- And em if words are alive (.) trees are alive and why aren't they walking around and talking
- Miss, I agree with two people (.) I agree with Shane because when you forget them they might be asleep and when you remember they might be awake. And I agree with Stephen because they might be playing soccer or tennis

T. Have you your hand up Jordan?

- Yeah. I agree with PJ because they might jump out of your mouth and say M.E. That spells me
- I agree with PJ as well cause eh when they jump out of your mouth and start singing they start dancing as well

T. Do they really?

- Miss, eh, I agree with Craig Burns, he said that you be talking and they jump out of your mouth
- I disagree with John Paul because if words were air then if you said the words they'd come out of the air and you'd be breathing the words in your mouth

T. How do we know that's not happening? Excuse me, who's making that noise? Darren, would you stand out?

- And eh, I think that if words (.) everyone said that if words were alive they'd be walking around (.) and em but them trees out there are alive and they're not walking around
- I forgot what I was going to say
- I agree with Greg, Miss. If a word was alive it'd be having a birthday

T. Christopher remembers...

- Like if you say it and its dead (.) then how do you keep on saying it? (.) you won't be able to say apple
- If a word came out of your mouth and it said (.) it said something like .M.E. spells me or something like that, it wouldn't be alive because that's up out of your voice box and how do that know how to spell?

T. Well I think I'll take my turn. We seem to be saying here that the words are doing things by themselves, that they're coming out of your mouth. Aren't we in charge of the words that we say? Aren't we making them come out of our mind and our voicebox? That's what I think. Now...

- If words were alive they'd be coming to school

T. Hold on. We have a boy whispering here and when you're whispering you can't hearing what another boy is saying

- I'm sorry

- Miss. I agree with PJ cos if you said it will go m.e. that spells me.
- If you say (.) if you say a word and it's in your noise-box there could be a door and it opens the door and comes out
- I agree with Colm because he said that if a word has seven letters (.) it lives for seven years
- If somebody said a word and if it was like air and it'd go in on somebody's brain and then it'd be going all over again

T. But when people say words, I'm taking a turn again, they may not go in like air into our mouths but don't they (.) when we hear them, don't they go into our ears and into our brains

- And then come out of our voice

T. And then if we say them again, come out of our voice box? So they do kind of go into us. Do you agree? My words are kind of going into you now because you're hearing them and listening to them (.) I hope you are anyway. So now. One last round and this time we're changing the topic slightly...

- Cool

T. When do we know that things are true or real? After all I tell you things here – I'm the teacher and I tell you things here everyday. How do you know that they're true? I tell you that the world is round and that the sun stays in one place and that earth actually does all the moving. How do you know that my words are true? How do you know anything is true?

- Miss, can I start again?

T. You can start Ryan

- How do you know that the earth is moving if the stones are not moving? You move the stones by kicking them or throwing them
- Miss, how come I'm not turning around if the world is whirling around? I should be just going around like that, look
- I agree with Jordan because if the world was turning around (.) I disagree with him I mean because the world is turning around but we're not moving because the world is turning very slowly. We're really turning around
- I agree with PJ (.) because (.) actually I disagree with PJ because how do we actually <u>know</u> the world is moving

T. See that's the point I'm asking you too. How do we know that things are true?

- Miss if the world was turning around everything would be turning around

T. It is turning around but how do you know that's true?

- If the world is turning around then you could turn your head around and leave your shoes (.) like, leave your legs facing that way
- Miss I agree with Jordan, I mean I disagree Miss because if the world was turning around, you wouldn't be
- OK. Now we're getting off the subject about the things that are true. What does truth mean? What does real mean? Have a little think there for a moment now. Those boys can come back into the circle please, and let's think true and truth and real mean? True and truth and real – what do you mean? (.) starting with Craig Burns
- Em, I have two, em, things to say – when people tell you and em, they say its really really true and the next day, say if you had a brother and you asked him and you told you brother what the other fellow told you and if he says "No, that's a lie" that's not true' and em,...

T. Who do you believe?

- My brother, cos he never lied to me
- T. OK anybody else about true and truth and real? PJ yes?
- I think that if something was true, where you have to see it first to believe it or else you'd be like (.) say now if spacemen wanted to see if the world was round or something and they would (.) they'll take off but if you saw them taking off you'd know that its true whereas the other people will think that its fake and that you're just making it up...

T. So you think that you have to see it or otherwise you won't believe it? Alright Stephen?

- Miss I think that something is true because if it wasn't true it wouldn't be there

T. So something is true because it is there? Craig?

- I agree with PJ. Cos if something is true you have to see it

T. You have to see it?

- Yeah
- Imagine if someone said to you that (.) Fitzgerald's Park was never there. And if you were down to see it, it would be there (.) or maybe it wouldn't (.) you'd never know...

T. Right some who hasn't spoken over here (.) truth, true, real, (.) how do we know that something is real, Ryan?

- I think that em (.) isn't real because all it is, is on telly. I think cartoons are not real because they only draw them. They set em on little boxes and flick em round...

T. What does real mean? Who can tell me what real means? Yes. Sean?

- Plus I know something again. With the Simpsons (.) I saw it on the ad. When they say (   ) is lot faster than mouse? Know when they pretend to do it for us? I saw the man…he was pretending to do it fast like that

T. OK. But what does real mean? Anybody got any clues about what does real men? PJ?

- Real means something that (.) like say now a person came along and said "I'm your Mam", and he was a boy and you never know him (.) then you'll know that that's not true. So true is when you see you Mam and go, for the first time when you come out of her belly she'll say "I'm you Mam", you'll know that she's your Mam cos she's your real one

T. Tell me this how do we know, anybody that something is real? Kevin?

- Miss, I was going to ask you something else (.) eh, like if there's a cartoon on like Tom and Jerry, why (.) and you can see them running very fast… I know what causes that cos the man is getting two pieces of one. The one colour like for a mouse and another and they put a string onto it so they can move it very fast around

T. Ok are we real?

- Yeah

T. How do we know?

- Cos if we weren't if we rubbed our hands it'd go straight through our hands

T. So we know we're real because we can fell? OK. Could I ask another question? Is happiness real? Wayne? How do we know? Why are you saying yes?

- Cos if you eh, if you (.) happiness wasn't real why would you laugh at people (.) having fun

T. Ok anybody think happiness is not real? Can you touch happiness?

- Yeah, miss you can

T. How?

- Cos I saw boys smiling and you can touch their faces when they're smiling

- But that doesn't mean touching happiness

T. What does it mean, Colm?

- I dunno

- If you want to touch happiness you have to know if someone is happy

T. And how could you ever know if somebody is really happy?

- I don't know

- They will tell ya

T. They will tell you that they're happy (.) but how do you know that they're telling you the truth? So we're back to truth again.

- My friend said he was happy. He was happy and he was half crying and a half laughing

T. Now we'll have to actually stop there because it is lunchtime

- No

- I have a brilliant thing

T. What's your brilliant idea? Ok. Lets heat Christopher's and PJ's and Sean;s brilliant thing. Everybody else quiet, so. OK – Christopher's brilliant

- I think that you have to find happiness by going down deep inside you and find it in your heart

- You have to find happiness by being somewhere alone where you're not busy and you have to think about it

T. And is it real?

- Yeah

T. Is it real then, Stephen, Christopher, I mean? Ok Sean, I said I'd give you a chance?

- Miss, I know what was (.) I forget…

- Miss, I think if you want to touch happiness, you must get happy

T. But where would you go to get happiness?

- Anywhere, you can touch it

T. Ok. We'll stop there

end

Script Twenty-Four

Good and Evil

> T. Today's topic is Good and Evil. Now some of the questions that we could ask about good and evil – some of the questions would be, well what is good, what is evil? Are people born good or evil or do they become evil? Are they born good and do they become evil?

- Or are they born evil they…

> T. …become good. Are we all, - have we all – got mostly good in us and a tiny bit of evil? Or do we have any evil in us? How do we become evil? What makes us evil? Why, why is there such a thing as evil in the world? There are several questions we could ask about good and evil. Now if any of you have got an idea in your heads about what god and evil is, or where it came from or why we have it (.) let's start with you (.) Ryan Courtney. Now you must talk loudly because my little microphone here, is very small

- Herman Ritler (?) was a bad person cos he used to be bad. He would just bring children into (.) what d'ya call it (.) rooms and gas them and he killed people

> T. Right, Jonathan is thinking. Have you got anything to say about good and evil? Do you think, Jonathan, that some people are born with a little bit of evil in them or do you think everybody is born…when the tiny new baby is really, really new, could that baby have any evil in it? Do you want to think about that for a while? Sean….

- It couldn't …

> T. It couldn't? What makes the person, so, grow up to be an evil person do you think, Jonathan?

- Cos they, they wanted to have more-der stuff

> T. That's making them evil? They get greedy? Greed makes people, Jonathan thinks. Right

- I think what good is when (.) not bad (.) they don't shoot anybody

> T. That's what good is? So you just do nothing and you're automatically good?

- Yeah. You just play around and you don't shoot anybody

> T. That's what good is? So you just do nothing and you're automatically good?

- Yeah. You just play around and you don't hurt anybody

> T. Do you hear what Sean said? Sean said by doing nothing you are automatically good. Supposing, Sean

- And you don't hurt anybody

T. Supposing you saw something bad happening and you did nothing about it (.) do you want to think about that for a few minutes and then come back? (.) John?

- When I was watching the Flintstones Movie, there was a guy called Cliff in it. And his personal secretary (.) they were planning to get Fred Flintstone out of the executive business. And they were pretending to give him a bonus – in the middle of summer. But they were pretending (.) but they said that'd keep it for themselves and they'd go off to Acapulco

T. And you point is? Are they good or are they evil?

- I'd say their evil. And they took Pebbles and Bam-Bam and they put them on the machine to make little houses and stuff
- I think good is God and bad is the devil
- Miss, see in the Rugrats. There's this girl called Angelica and she drives around and tells them what to do and I think she's evil
- Miss, I think eh…

T. Just one second, I have to pause because the boys are in for the Tokens, one second now

- Boys, I think eh that the devil's evil and the vampires are, and em, some good witches are a small bit evil and good evil (.) em (.) if…

T. So the devil (.) I'll go back over what you said – the devil is evil and vampires are evil and some, even some good witches are evil. Where does good come from so?

- It comes from (.) God makes it (.) good on somethings and God can make bad or good
- Miss, eh, I think, eh, God make eh, good and eh, when eh get good then, be some evil get into of em

T. I think I agree with Darren. I think God makes all new babies really good, they're born really good, but some of them change a little bit as they grow older and I would love to know what you think makes people evil. When we come back to you (.) now Christopher.

- I think that the good from (.) comes from God and the evil comes from the devil

T. And how does the evil get into people?

- I think that there's only somebody that can stop the devil and that was God and he put him under the ground, to try and stop the people from getting bad

- I have two things to say. I agree with Greg because God makes good and the devil makes bad and I think that God made a lot of good people 'cept then he said "I think I have to make some bad people too"

T. Do you think that?

- Yeah

- Em, I agree with Stephen cos em when em he said that em good makes (.) good means that em God made it and the devil made bad...

T. But Stephen Kenneally didn't say that. He said God made some bad people cos he had made loads of good people

- Greg said that

T. Greg said that. (.) you must listen. Anthony D?

- God might have made about a hun (.) about ten people good and ten people bad and then he might have a thing called Halloween and then he might have made all the bad fellas then

T. Can I ask a question even though it's not my turn? If God made ten people good like what Anthony said and if he made ten people bad, those ten bad people then (.) it wouldn't be their fault for being bad if they were made bad by God (.) then they couldn't help being bad

- That makes sense

T. Yeah, but is that true?

- No Miss

T. Wait a minute now, Darren, do you really think that God would make something that is bad? Now, we'll pass it on to Kevin. Did you hear what I was saying there Kevin?

- I think evil is something like if someone said about fifty curses and that's (.) that's bad and its evil as well and good is someone who don't say any curses and just play all the time

T. But can I go back to my question? Does God make people bad of do people make themselves bad?

- Make themselves bad

T. It's Anthony's turn. OK Anthony, why do you say that?

- Because if God makes some people good and some people bad then the bad people would be saying a load of curses

- I agree with Stephen because...

T. He said that God makes lots of good people and he kind of throws in a few bad people to kind of balance it out a bit. Why do you think that?

- Because the devil might be making the bad people come out (.) maybe it's the devil (.) inaudible

- I was watching the Flintstones movie and there was two people ran down a hill and em (.) it was a big hall and then like this rock came rolling down and it nearly hit them but their two Dads came and they then, the Dads caught em...

- T. And can you tell me what, how does that link into Good and Evil? What connection has that to Good and Evil?

Whoever made that trap thing – they could be evil

- T. Oh, I see what you're saying. Ok

- God only made people (.) I don't think he made them bad or good

T. You think he made them bad or good?

- No. He only made em and checked em to see if they're bad or good

T. He checks who's bad and good?

- Mmm. He made em

- Miss (.) If there was friends who wouldn't leave the other friends play. I would leave them play and I wouldn't leave them play over that...They wouldn't leave them play and now they're not allowed play

T. And Ricky, when a new baby is born do you think that baby is born with already some badness in them or do they become bad?

- They become bad

T. How? Bad example makes them bad?

- I agree with Shane...

T. I can't hear you (.) it just won't come out, maybe God had a what, John Paul?

- Maybe God has a way for knowing who was good and who was bad

T. Yes but I was asking is how did they get to be bad in the first place

- Maybe someone told them how to be bad and (.) they started to get real bad then

- I disagree with everybody who's talking about cartoons. Because in cartoons its not really real at all. They're only messing around with invisible and magic. And something else (.) how could there be only ten people good and ten people bad when there's twenty-four people in our class. Cos ten and ten only makes twenty

- I think that the devil didn't make bad at all. Adam and Eve did because they ued all the bad words. I think it was the devil put the bad thought and Eve did it then

- I think the devil put the bad (.) threw the dart (.) the bad that's why they became bad then (.) he threw it at them...

T. But wouldn't that excuse them, then (.) they'd say well I'm not really bad at all if the devil threw something at me (.) he made me bad. Remember that's what Eve said – "He made me do it" But did he actually make her do it? Did she choose?

- He just said "If you, eh, get the knowledge, you'll feel like God".

T. Yeah. So he gave her the idea, but who actually made her do it?

- The serpent (.) the serpent told her to do it if she wanted to be like God...

T. So who made her do it?

- She made her of it herself and the Adam said (.) they knew that they were (.) naked (.) God them...

T. I'm sorry, I couldn't hear the last sentence (.) he what?

- Adam was naked and he (.) and God found out that he ate...

T. He ate three?

- The tree of knowledge...

T. oh, the tree of knowledge (.) I'm sorry I couldn't hear you with the coughing

- We're gone back to the start, Miss

T. Keep going

- I think you make the decision inside yourself, that you say I want to be bold/good. It's inside yourself what wants to make the difference

T. That is a very (.) I shouldn't actually say that's very good. But actually, I hope the boys heard (.) would you repeat that again?

- Inside yourself makes the decision. Because up to that you just say "will I be bad or good?" That's what inside yourself decides you want to be bad or good

T. Could I ask you something now seeing as you said that? Is it easier for some people to make a decision to be good if they had a lovely home and a lovely life (.) is it easier for them to be good?

- Yeah

T. And if you (.) if a boy lived in a very bad place, in a very rough place, is it more difficult for him to try and make good decisions, do you think - or does it matter where you live?

- Easier if a boy came from a big huge mansion

T. Right...

- I think God should make loads of good people and then the devil sends up bad souls

- I agree with Ricky because maybe it might be copying the curses off of big boys

- I had a dream once (.) That when I walked onto my room I fell down a huge hole. There was a path going to heaven and a path going to hell and I tried to grab onto the path going to heaven and I saw all red and black souls going up the heavenly way. I saw the devil sending them up to God. But God was sending them back down again. And then I suddenly jumped over to the heavenly place and...

- I agree with Ricky because (.) babies might be copying big people and saying curses

T. What do you think makes people bad, Stephen? How do people become evil? If you think of the most evil people in the world (.) say Adolf Hitler who killed lots and lots and lots and lots of people during the War with the Nazis (.) Think back, back, back, back, back (.) One day he was born and he was just a tiny, tiny little, cuddly baby (.) Craig (.) can you hear me? One day the worst person in the world was a tiny, cuddly baby. How did he become the worst person in the world? (.) from being lovely tiny cuddly baby (.) Was he already an evil baby? Or how did he become bad, do you think?

- People might have been bugging him and pushing him around

- I disagree with Anthony cos em, ten people and ten people makes twenty and there's not twenty in here, Miss (.) there's twenty-two

T. Right here there is, yes (.) so ten of us are evil and ten of us are good and there's two leftovers. Anthony, did you hear what he said? Did you hear what Wayne said Anthony?

- Me?

T. Which Anthony said ten good people and ten bad people? Do you (.) what about the two leftovers in this class and what about all the other children in the school? Ok we've come to Darren (.) hold it I'll pause it while we do the token again

- Boys, eh I think good an 'eh, bad is eh, good is good and eh bad people then make you bad and you see all the people hitting people an' killing people

T. I agree with Ricky that it could be from copying people that people learn to be bad (.) but (.) I still think I also agree with Ryan C that people do have a choice. Now, babies don't have much choice, I think, but as you get onto being two or three you being to realise that some things are good and something are not good and if you decide to do something that's not good its you have made the decision,

whether you wanted to do a little bad thin like kick you mummy or knock over the cup or something (.) Yeah, or empty you dinner or call somebody names. Ok. Now we'll just do a hands up. Are you ready to talk, Christopher?

- How many can we say?
- Shhh, shh, do you want to keep going for a minute?
- Yeah
- I think that where bad comes from cos somebody hates God. Or that somebody likes the devil and then they get grounded for mocking God and then when his grounded is over he tells the guy who likes God to like. God's the devil and the devil's God
- Miss, I think everybody who knows bad curses are bad so who made up curses? How did they know that they're bad?

T. Hold it I know that we all want to talk at once but its Craig's turn

- When born babies are just alive, they're good. And then when they start to get bigger (.) when they're about six or seven they start to be bad and then they start to go in home and start to rob money out of their Mam's press or their Mam's purse or...

T. Why?

- Cos don't want to be good, they don't want to be a good boy – they want to be a bad one and em...

T. You think they like the feeling of being bad? Some people like that feeling?

- Yeah and I think when em, I think more people like good and when em you're good you don't climb trees, you don't climb walls, you don't play games that knock at doors and run away. Em I think when you're good, you knock at people's doors and you say "are you coming out?" And when yor're bad (.) I think when bad people are crossing the road the police are just driving and police just stop and they start flashing their lights and em they just stay there and em the cops get out of their car and start chasing them and then they start laughing and em they start curses to the cops and (.) and em (.) saying curses to the cops as well...

T. Now, will we keep going in the circle or hands up?

- Hands up
- That's all the baddies are devils' soul. Cos there's loads of devils and they're down under you and they be making souls and they've loads of em hot blood...

T. And can I ask where do (.) how do you know that now? How told you all about devils because I never (.) we'd nothing about devils in this class. How do you know about these things?

- South Park

T. No, seriously, where did you hear it? Did somebody tell you or...

- South Park
- South Park
- I don't watch South Park
- Evil things are like if someone just came down like that and bashed the car window (.) that's evil. And goodness goes around, they walks around and they don't pick up a bar and smash a window
- I disagree with Anthony Dennehy because wherever he got that from (.) they're just people dressed up. Like Halloween
- I agree with Ryan Courtney and Ricky (.) because Ryan said people want to make their decisions and Ricky said babies get bad by being born and copying

T. Jordan, who's the worst and most evil person you know?

- Freddy Kruger

T. Is he real? Do you know anybody who's <u>really, really</u> evil? Really, in your real life?

- Jordan (.) miss

T. Do you know anybody who's good?

- There's bad people in this school. They get standed out by the gate and then when they're out by the gate they say curses
- Em, I agree with you

T. Do you? Why?

- Shrugs

T. Because I agreed with you? (.) You haven't been thinking. OK

- ( ) babies might have to pick whether to be good or bad
- I can answer Ryan regarding his question because when I always be out the front playing, me and Ryan and my friends (.) my friends brother are always at us and we're always trying to run away and they're catching us a pulling us

T. And why do you think they do that?

- Cos they're big and they fight you and they chase us all
- Miss, I think that if words were ( ) if Adam and Eve didn't eat that apple (.) we'd be in heaven now

- I agree with Ricky cos babies do copy bad people. God didn't make bad people (.) people be kind of bad and kind of good (.) the devil...
- T. Is God kind of bad and kind of good himself?
- yeah

T. Do you really think that?

- Cos what d'ya call it em (.) friend Vincent (.) what d'ya call it (.) be down by our...

T. Now that's 4 "what d'ya call its" in one sentence (.) so lets leave out he what d'ya call its and...

- There was car on top of a bridge and ( ) they broke all in the car windows and (.) then Vincent went up and went into the car and started breaking it

T. And what do you think is the reason why Vincent is doing that

- Cos ( ) and the next day when my Dad and me went up there was no car...
- Everytime I play with him he swings on trees
- Once when I was a baby I was in under my chair at playschool (.) I was looking out the window (.) pathway to heaven (.) I said to the teacher "is that heaven under my chair?" She said no and I said Oh sorry ( ) goodness
- Miss, I agree with Ryan, he said there was a car on top of a hill once and his friend Vincent broke onto it and the next day he said when his Dad and him went up it was gone. That's why (.) it was down in our terrace
- I disagree with Ryan because if he knows the boy who did it he could just ell him stop cos it was his dad's car...
- I think that if there was like (.) Why did God try to stop all the bad people? Why doesn't he just make all of them die?

T. I suppose he feels he's giving them a chance to get good before they (.) I don't know (.) I'm just wondering (.) Craig?

- Maybe if eh, if Ryan, maybe if that didn't happen (.) maybe Ryan might be lying (.) about that car
- He wasn't. It was up in our terrace

T. Craig, are you finished?

- If God did make us bad anyway, he would be disappointed when people said curses

T. He would kind of be feeling disappointed with himself, I agree with you

- And I kind of disagree with Ricky cos maybe it mighn't be copying adults, maybe people out in the street they might be copying...

- I can answer Ryan's question and Darren's (.) it was up in our terrace all the time (.) and I know Vincent is getting all the bad stuff (.) cos his brothers are always doing stuff that's bad...

T. He's copying his brother, do you think?

- ( ) stickers and he robbed them and he was sticking them all over

T. So do you think that is much harder for Vincent to be a good boy than it is for you to be a good boy?

- Yeah and when he's coming into my house he says (.) Can I use your bathroom, please and he'd be all nice

- I disagree with Anthony Dennehy cos he said ten people might be good and ten people might be bad (.) there's millions of people in the world

T. And your point is? Do you think half of them are good and half are bad?

- Most of them are good and most are bad

T. That couldn't be true (.) most of them are good and most of them are bad? Do you think everybody has a little bit of good and bad in themselves?

- Yes I agree with Ryan C cos he said people decide to make good and bad

T. Who wants to answer this question? What makes people decide they're going to try something bad?

- Me and Craig called up to Ryan's and there was this man he was up in the lane drinking and he said to us "if you don't do away, I'll burn your house down"

- We got some fright and we ran

- I think bad and evil comes from big people and I agree with Ricky because all your Dads and Mams and Dads are always saying curses and the baby might be copying it

T. So only big people can be bad? You don't know any small people who are bad?

- I saw this move call the Hunting

T. Poor John, let him talk

- There was something weird in it (.) the husband died a girl came out and the was the weird fireplace (.) it was for children, eight children (.) and they figured out that the father had killed his five children (.) and she could see the wife's head on the wall

T. Oh dear me that sounds nasty

- I was watching the Mummies once and they cut off your man's tongue

T. Oh now Brian. We won't talk about that

- I know someone who says curses and he's only four and he's living next door to me. His name is Mark

T. How did he decide to become a curse?

- He copies his brother

- All – everyone is bad sometimes

- Actually, I agree with Ricky (.) I get the curses from (.) that are on the road…

- My brother was watching (.) my cousin was watching the video called "The Mummy" and my brother was watching it, then we had to take my sister's bed out of her bedroom because every night my brother was scared he was getting a dream of the mummy.

- Once I was walking down the shop and eh I saw boys throwing stones and they were hitting cars window they were starting to crack in the back windows, the front windows and the side windows and they were trying to break into a car and hotwire it. They were all doing that and em…

T. And why do you think they wanted to do that? That was a bad thing to do?

- Wayne? Once I saw two fellas (.) one was like my brother and one was like em one of my cousins and they were one was only fifth-teen and one was only thirteen they were walking down (.) they came out of the shop and they were walking down and an old woman dropped a fiver and she didn't know and she went away and one em picked the fiver up and he spented it.

- I think the last time I was watching South Park the movie Kenny went down to hell and then the devil he was sad because this helper was just lazy and Kenny said what's wrong and he said nothing's wrong I just want to get rid of that guy who's the helper so devils do have hearts….

end

Appendix 4: Transcript sample codification

In Tables A4.1, A4.2 and A4.3 below, the categorisation of utterances in one sample transcript from each class is presented. Transcripts from the Thinking Time sessions on 'the seasons' in each class were chosen simply because this set had the shortest total transcript volume. This convenience strategy also eliminated the danger of skewing the image of the children's performance by choosing transcripts of the children's most favoured topics in each class, or the transcripts that appealed for some reason or other to the researcher.

In the main ('utterances') column in each table, the total transcript of the Thinking Time session conversation is presented in its exact textual style and sequence, but fragmented into rows so that each sentence/s or major clause (utterance) is in a separate cell. These utterances are coded by the dominant category the child deployed in the utterance (see discussion of this categorisation framework in Chapter 4). Many inputs or turns of talk by children are a single utterance but some are made up of two or more utterances. Each child's turn gets as many rows as there are category utterances in his/her turn. The Teachers' inputs (turns of talk) are not fragmented, numbered or coded.

Key to column headings

First three column heads
Tt = Turn of talk. In this Tt column:
T= Teacher's turn of talk.
● indicates the commencement of a child's turn of talk.
If there is more than one utterance in a turn, only the first utterance line is marked by a ● in the Tt column.
Utterance = sentence/major clause.
No = *Utterance Number:* every utterance in each child's turn of talk is numbered for reference purposes.

Categorisation columns	
Category (of philosophical discourse)	**Key**
Reflection	Ref
Compare/contrast	Co
Statement	Sta
Reason/ support statement	Rea
Summary	Su
Judgement	Ju
Question	Q
Analogy	An
Inference	Inf
Hypothesis	Hy

Comparative tables (A4.4 and A4.4) and graphs A4.1 and A4.2 showing the profiles the children's deployment of categories in these samples and in the total body of transcripts follow the tabulated transcript presentations.

Table A4.1: Junior Infants

Tt	Utterance (Junior Infants)	No.	Ref	Co	St	Rea	Su	J	Q	An	Inf	Hy
T	*What makes the seasons change? How do we get summer time? How do we get winter time? What makes the leaves fall off the trees in autumn? What makes the leaves grow back on the tree again in springtime?*	X										
•	How it changes is because of God	1				#						
•	When the leaves fall off the trees, the branches fall with them	2				#						
•	The snow brang the leaves down	3				#						
•	When the snow comes the leaves bring the snow down	4				#						
•	Snow comes down when the spring is over	5			#							
•	The summer comes	6			#							
•	People before everyone was born done something, so they could change each time in a separate way	7				#						
•	The wind brought the leaves off	8				#						
•	God keeps on changing the weather too quick	9						#				
•	Snow brings down. The leaves just stay on for a little while and the leaves come and more sun and the leaves just fall down	10			#							
•	God makes the leaves fall down from the tree	11				#						
•	The wind blows the leaves off	12				#						
•	When it is windy, God gets a windmill and turns it on	13								#		
•	God has...	14			#							
•	The astronauts come down when it's time to change the seasons. They got this magic spray; they spray it up in the sky	15				#						
•	When it's raining, God is crying	16								#		
•	The astronauts come up to space and colour it blue and grey and green and they put it all over the world and make it windy (.) or rainy or makes a spray or makes it cost or makes it cost as well	17				#						
•	God comes along and gets something and sprays it and that makes the seasons go by and by and by.	18				#						
T	*How does it become spring or summer? Why is it summer in June or July? Why is it winter in November or December?*	X										
•	God is up in the clouds and when its winter/autumn he skips one day, and then it winter, then he skips another day, then it's the other ones and	19				#						
•	I think that's how God done it	20	#									
•	Mother Nature pours water down to make it rain	21				#						

Tt	Utterance (Junior Infants)	No.	Ref	Co	St	Rea	Su	J	Q	An	Inf	Hy
•	When its summer, God makes it very sunny	22				#						
•	When it's cold and after it comes cold it comes windy and leaves fall off the trees	23				#						
•	The sun goes behind the mountains	24			#							
•	When the caretaker died, he used to change the weather	25									#	
•	When the caretaker died and he was up in Heaven and God changed the world	26			#							
•	When it's lightning, God is moving his furniture around	27								#		
•	When it starts to get windy, the clouds just come up and started to rain and the next day becomes sunny and the next day it really starts to get hot	28				#						
•	Thunder comes; it gets all the houses, when that happens it's spring and then winter. I think a fog comes and changes every winter and the sun comes and starts it off and there's dark and thunder	29				#						
•	God comes down and gets something like a wand or anything and just sprays it and then makes the seasons go on and on.	30								#		
T	*How do the days get longer and the nights get shorter?*	X										
•	In winter the days get shorter and it gets darker early and in summer the days get longer and it's bright for a long, long time.	31			#							
•	When it snows, God gets a bucket and throws it down on the trees and the leaves fall in.	32				#						
•	God makes clocks turn back and forth	33				#						
•	Seasons go up, when God changes the seasons, it goes up	34				#						
•	When it becomes sunny, God puts on his heating	35								#		
•	God gets the string and he ties the sun onto it and he brings it back up and brings it back down and he gets it off and the sun goes flying up into the sky	36				#						
•	Once me and my brother got a swing ball and he wouldn't let me play with it.	37			#							
•	My friend was playing football and lighting hit a pole and he keeled over and touched the goal and he got electrocuted	38			#							
•	Once my friend threw a ball the window. It hit me and I fell over the banisters	39			#							
•	God (.) the caretaker that died change the seasons and God changed one season and they changed the other seasons	40									#	
•	When God changes the seasons and then he calls the caretaker and then he calls Jesus and then he calls Mary	41			#							
•	Like I agree with Kevin because God gives the stuff to the caretaker	42				#						
•	I disagree with Connor	43			#							
•	I agree with Fiona, she said the wind blows off the leaves	44				#						
•	I agree with Connor	45			#							

Tt	Utterance (Junior Infants)	No.	Ref	Co	St	Rea	Su	J	Q	An	Inf	Hy
●	I agree with Laura because she said whenever its raining, she thought God is crying	46				#						
●	I agree with Fiona	47			#							
●	I agree with Fiona because she said God is crying when it is raining	48				#						
●	I agree with David	49			#							
●	I disagree with Connor	50			#							
●	I agree with Grace	51			#							
●	I agree with Tony	52			#							
	Total number of utterances; number in each category	52	1		18	25		1		5	2	

Table A4.2: Senior Infants

Tt	Utterance (Senior Infants)	No.	Ref	Co	St	Rea	Su	J	Q	An	Inf	Hy
T	When Spring comes, all the birds build their nests. Who tells them to start building nests?	X										
●	Holy God tells them	1			#							
●	The leaves could tell you that it's spring	2				#						
●	The weather could tell them	3				#						
●	I think it gets sunnier, just the way the season	4			#							
●	God just magically talks	5				#						
●	It gets hotter	6			#							
●	Flowers ready to pop out	7			#							
●	They'd know by the colour of the leaves	8				#						
●	They'd know by the leaves coming back on the trees	9				#						
●	They'd know because the leaves were falling	10				#						
T	The leaves would tell them. How would the leaves know?	X										
●	The leaves ( ) the branches swing	11			#							
●	If it was hot all the time, it would always be hot.	12										#
●	Nobody would tell the leaves, bold boys, taking branches	13			#							
●	The sun just comes out, other weather goes together countries	14			#							
●	I think the leaves get	15			#							
●	Who'd tell them?	16							#			
●	It gets colder	17			#							
●	Maybe God tells them	18	#									
●	God makes leaves get so big they get old	19				#						
●	When it gets colder, the branches freeze	20				#						
●	Mother Nature tells the leaves	21				#						

Tt	Utterance (Senior Infants)	No.	Ref	Co	St	Rea	Su	J	Q	An	Inf	Hy
●	Maybe the weather	22	#									
●	Maybe nobody tells the leaves.	23	#									
	when they get old, they just go brown	24				#						
T	Why would God keep changing the seasons?											
●	Maybe he wants to have loads of seasons	25	#									
	because he likes being warm	26				#						
●	It's also because…	27			#							
●	Baby animals get started to born	28			#							
●	God does tell them. They'd stay like that	29				#						
●	Mother Nature is one of God's friends.	30			#							
	They help each other to make other weather and animals to grow	31				#						
●	Maybe people are annoyed with weather	32	#									
	and God changes weather	33				#						
●	Maybe God just	34	#									
	doesn't feel comfortable with all the weather	35				#						
●	Maybe he likes winter	36	#									
●	I think God changes the weather because he wants to	37				#						
●	He changes because animals sleep	38				#						
●	I think God just…	39			#							
●	For winter to come for cold and summer for warm	40				#						
●	Maybe couldn't,	41	#									
	just thought of more seasons and he just stopped	42				#						
●	God just wanted to make four seasons to have four different times of the year	43				#						
●	Maybe he likes seasons	44	#									
●	I think he just wanted other people for people in hot countries to get colder	45				#						
T	Is God pleased with himself?	X										
●	I think he made hot weather because people have to have hot weather	46				#						
●	I think God thinks he made a great job	47						#				
●	I think God wasn't having fun,	48						#				
	because if there was just cold all day and if it was autumn everything would be winter	49									#	
●	If it was just hot…	50			#							
●	I think God has a machine up in heaven and he made it wrong and God just kept going wrong	51				#						
●	I think God is happy with himself	52						#				

Tt	Utterance (Senior Infants)	No.	Ref	Co	St	Rea	Su	J	Q	An	Inf	Hy
●	and he likes summer and he likes the cold	53				#						
●	I think God made four seasons because he doesn't want to be too hot or too cold	54				#						
●	Maybe God wanted four seasons	55	#									
●	Maybe God wanted to make winter	56	#									
	so birds could be hot and cold	57				#						
●	Maybe God wanted to change it	58	#									
●	Birds have very good senses,	59			#							
●	tells me what day it is (.) clock	60				#						
●	God gives them ideas	61			#							
#	I think it's their bodies and they make nests. They can fly and they have a different body, a different body makes a different language, different body makes a difference.	62										#
●	Whenever they build a nest, they can go to asleep	63				#						
●	Do birds have a language?	64							#			
●	Birds have a language and we have a language because we're all different	65			#	#						
●	Birds have a language	66			#							
●	I think they do have a language but they don't use it	67			#	#						
●	It's just imagination	68			#							
●	They have a language, the way they're whistling and they're…	69				#						
●	Birds have a language what one different from others	70			#	#						
T	Do trees have language? Does everything have language?	X										
●	Trees don't have language because they stay still	71				#						
●	Trees don't have language because they're…	72			#							
●	I think trees don't have language stuff like plants and tables and stuff don't have language	73			#	#						
●	Some things have language because some things have electricity to make them talk	74				#						
●	Because other things are living things	75				#						
●	Cats and dogs can talk	76			#							
●	Birds don't need the trees to talk because they can fell the fresh air themselves so they know	77			#	#						
●	Somebody made tables and stuff, not made to talk, just made	78			#	#						
●	Maybe birds just talk (.)	79	#									
●	They just talk	80			#							
T	T. If you had a chance to make one one more season, what would you call it?	X										
●	It would be cloudy	81			#							
●	I think he made clouds.	82			#							

Tt	Utterance (Senior Infants)	No.	Ref	Co	St	Rea	Su	J	Q	An	Inf	Hy
•	I think he made aeroplanes	83			#							
T	*What would you put into the season?*	84										
•	I'd put in every season, summer and winter and all those seasons and loads of rainbows	85			#							
	because everyone likes rainbows best	86						#				
•	My season would be when all the fruits come down	87			#							
•	Every day you'd…	88			#							
•	I'd call my season sunny season and they'd be rainbows	89			#							
•	I'd have winter because don't like	90			#							
•	I'd have a season once	91			#							
•	I'd have a season where there was wind everywhere and if you were hungry.	92			#							
•	I'd call it sunny season	93			#							
•	I'd like all the days thunder and lightning	94			#							
•	I'd love to be in Lapland	95			#							
•	I wouldn't like to go to Luke's place because it would be raining	96				#						
•	I'd be afraid to go to your place because I'd afraid apples would fall on my head	97				#						
•	I like rainbows because they have nice colours	98				#						
•	I agree with teacher and myself	99	#									
•	I'd have land; sweetland where loads of sweets grow and you'd just pick off sweets.	100			#							
	They grow on walls.	101			#							
•	My other season would be you'd get everything for free	102			#							
•	Summer because then you'd be …	103			#							
•	Can't have a new season because what months would it be in?	104							#			
•	It would be calm, because you'd ( )	105			#							
•	I think its thunder and lightning because fireballs coming down from	106			#							
•	I agree with teacher, I'd like her season	107	#									
•	I think God would like winter best because he'd throw snowballs	108	#									
•	I think God likes snow because you'd be able to throw it at people	109				#						
•	I don't agree with Ally because if it was always winter you'd be always wishing it would be really hot	110									#	
•	I think God likes the weather when it's raining (.) watering can	111								#		
•	I think he'd like winter because it's Jesus birthday	112				#						
•	I think he'd like St. Patrick's Day	113			#							
	Total number of utterances in each category	113	16		43	41		4	3	1	3	1

Table A4.3: First Class

Tt	Utterance (First Class)	No	Ref	Co	St	Rea	Su	J	Q	An	Inf	Hy
●	I think we need seasons so we can have stuff like Christmas and Easter	1				#						
●	I think that we have to have changes of seasons, otherwise the hibernators would either never get to sleep or else never get to wake up	2				#						
●	If we had no seasons it would be staying warm all the time.	3									#	
	That would be bad cos if it would be hot all the time and you wanted cold there would be no cold there	4						#				
●	I think we need just three seasons for flowers; Summer, Winter and Spring, because that makes flowers grow healthy and makes ' em grow in people's gardens so they won't be dying all the time	5				#						
●	In Autumn all the trees grow when their leaves start falling off	6			#							
●	If we had Winter all the time it'd be Christmas nearly every weeks	7									#	
	and if we didn't have the four seasons and no summer then school would never be closed.	8									#	
	And if we didn't have Spring the flowers wouldn't grow	9									#	
	and if we didn't have Autumn nature couldn't rebuild	10									#	
	and if we had Spring all the time the flowers would be just getting bigger and bigger	11									#	
●	Miss, I disagree with Craig H because you'd have Saturdays and Sundays off school and there's such things called bank holidays.	12				#						
	I think you would need April and stuff…Spring…cos everything needs to get new and you definitely need Summer to play outside with your friends.	13				#						
●	I think if you didn't have Winter you wouldn't be able to get toys in December	14				#					#	
●	I disagree with Wayne cos	15				#						
	if there's all cold weather then you'd have plenty of rainfall and you'd never run out of water cos if not, you'd have no taps and no drinks									#	#	
●	If you had no sun it'd be dark all day and if you had no moon it'd be morning all the time	16									#	
●	Miss, eh, I think , eh, Spring is, eh, trees all be growing and all the eh, leaves is new and then they be fallen off	17			#							
●	Miss, know if flowers were in Summer all the time, well they would grow and grow and grow and we'd all be like a jungle	18									#	
●	It would be bad if there was only one season	19						#				
T	*Why? Which one?*	X										
●	Like, any one really.	20			#							
	How about people's birthdays?	21							#			

Tt	Utterance (First Class)	No	Ref	Co	St	Rea	Su	J	Q	An	Inf	Hy
	If there was, say, only Spring, then the people who have birthdays in Summer, Autumn and Winter would never have been born	22									#	
•	If there was no Winter and people's birthdays were in Winter then they'd miss their birthday	23									#	
	and in Autumn trees don't grow, Anthony, cos there's leaves falling off it and the tree needs to take a rest	24				#						
•	I disagree with Jonathan, cos if the flowers were growing all the time they would need rain first	25									#	
	and we get rain in Winter but hardly ever in Summer	26				#						
•	I would like if it was all sunny first for along time and then a bit of rain after it.	27			#							
	You'd know where you were...what would happen next	28						#				
•	If there's no such things as seasons, then we don't know when its Christmas or Easter	29									#	
•	I think that if there was no such thing as seasons then all the flowers wouldn't be able to grow	30									#	
•	I disagree with John and I agree with Christopher	31	#									
	because I think, John, that if the people's birthdays were in November and that was gone then they wouldn't exist and so we wouldn't feel sorry for them.	32									#	
	And then Christopher, I agree with you because if they never got to sleep or if they were asleep all the time then we'd never see any animals that hibernate	33									#	
•	I disagree with Jonathan cos if the flowers keep on growing people would just cut them	34									#	
	and I agree with John cos if someone's birthday was in February and all of a sudden everything changed and there was no more Spring then, they'd never get any older – they'd stay babies all the time	35									#	
•	If there was no such thing as the seasons you would never have a different year cos the seasons are what makes the year pass	36									#	
•	Craig, I disagree with you cos if everything suddenly changed the babies would just have a different birthday	37									#	
•	I disagree with you John, cos even if you birthday was every four years, we could still celebrate our birthday	38									#	
•	John, I disagree too, cos if it was Spring or Summer when people were born and john said they'd never be alive....	39									#	
•	I sort of agree with you P.J.	40	#									
•	I'm having a time-going-backwards-feeling – they're all disagreeing with me again	41	#									
•	I agree with John cos maybe time is going backwards	42				#						
•	I agree with Stephen K cos if there was no seasons there'd be no Christmas or Easter	43									#	
•	I forgot who I was going to disagree with	44	#									
•	John, I disagree with you cos its not possible for time to go backwards.	45				#						

Tt	Utterance (First Class)	No	Ref	Co	St	Rea	Su	J	Q	An	Inf	Hy
●	I didn't say it was going backwards.	46			#							
	I said I was having that feeling.	47				#						
	Anyway what about time machines?	48							#			
●	I know how to make time go backwards – just turn the clock hands back.	49				#						
	Total number of utterances in each category	**49**	**4**		**7**	**11**		**3**	**2**		**22**	

Comparison of sample and total transcript profiles

Below are two graphs and tables:

- Fig. A4.1 is a graph of the data in Table A4.4: this graph and table show the categorisation profile for the sample set of transcripts categorised in Tables A4.1, 2, and 3 above.

- Fig. A4.2 is a graph of the data in Table A4.5: this graph and table show the categorisation profile for the full set of transcript data.

Figs A4.1 & 2: Incidence of comments in each category of thinking, by class, in the sample set and in the total transcript data
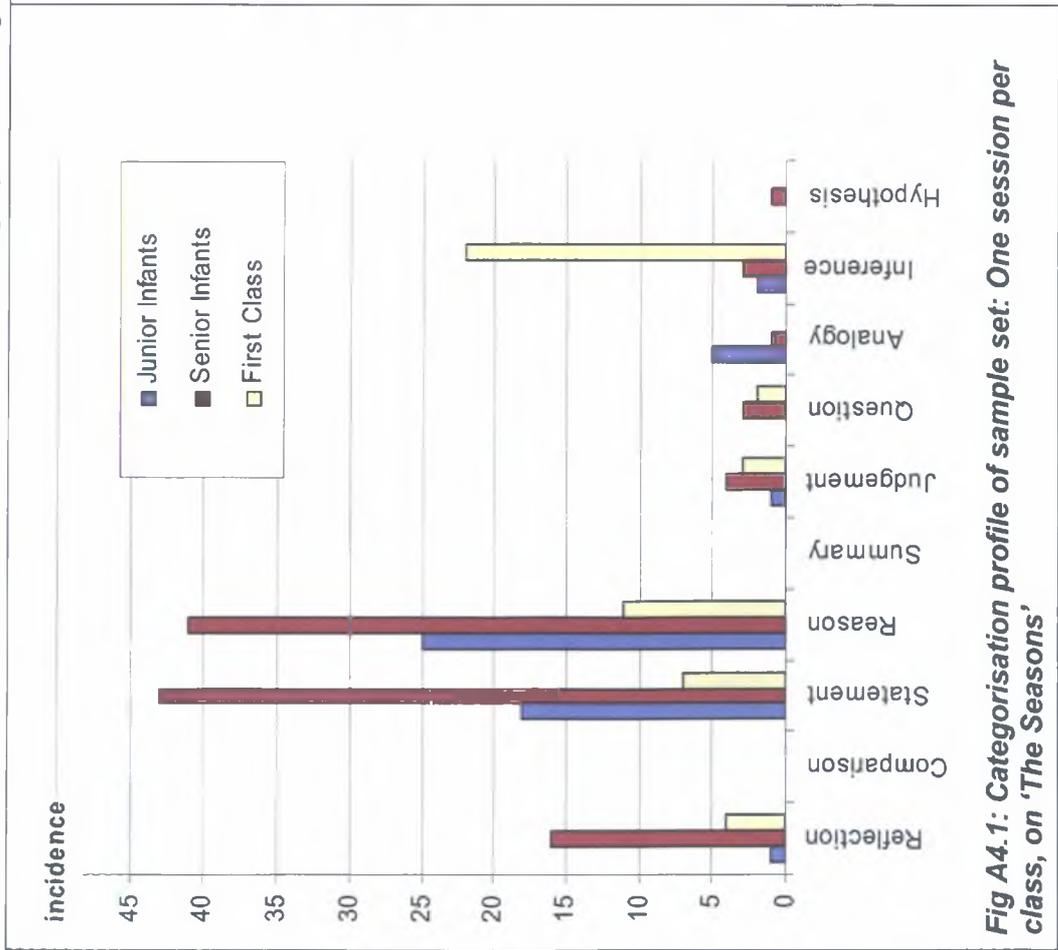

Fig A4.1: Categorisation profile of sample set: One session per class, on 'The Seasons'
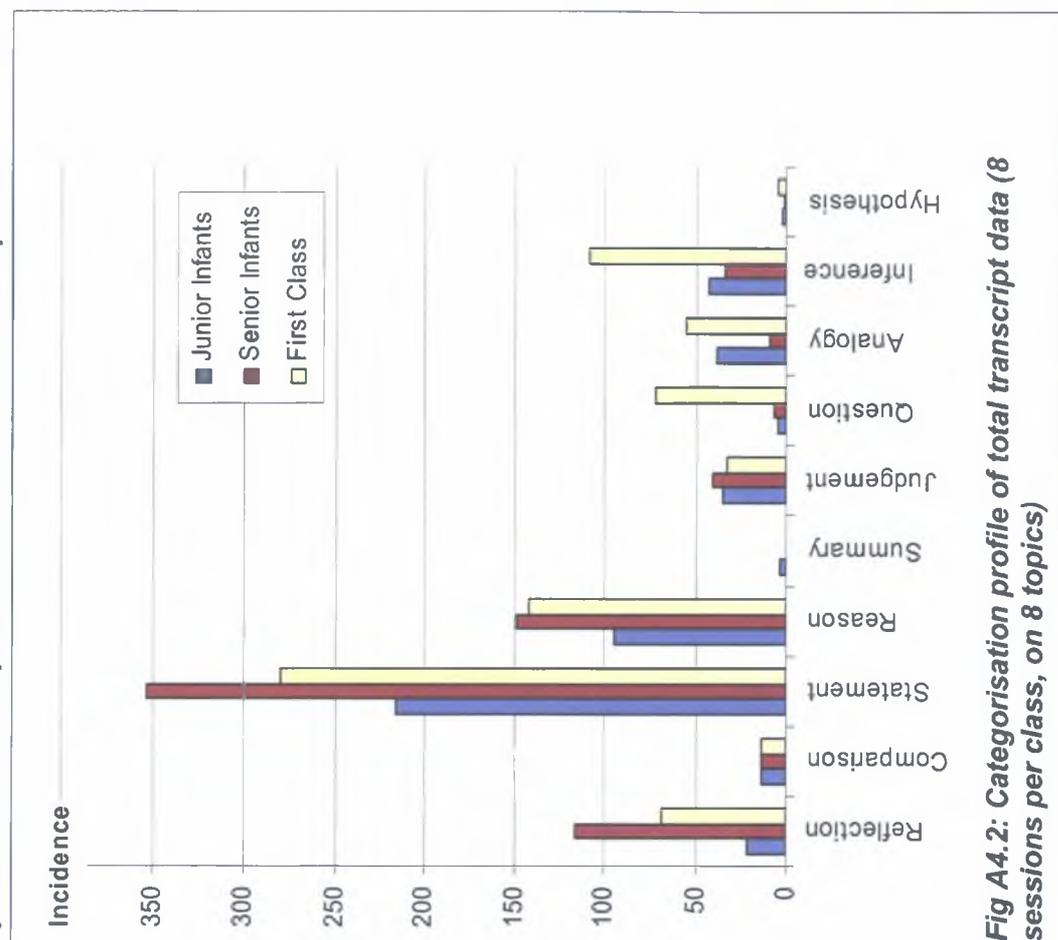
Fig A4.2: Categorisation profile of total transcript data (8 sessions per class, on 8 topics)

Tables A4.4&5: Incidence of comments in each category of thinking, by class, in the sample set and in the total transcript data

A4.4: 'The Seasons' sessions

Category	Junior Infants	Senior Infants	First Class
Reflection	1	16	4
Comparison			
Statement	18	43	7
Reason	25	41	11
Summary			
Judgement	1	4	3
Question		3	2
Analogy	5	1	
Inference	2	3	22
Hypothesis		1	

A4.5: Total transcript data on eight topics

Category	Junior Infants	Senior Infants	First Class
Reflection	21	116	68
Comparison	13	14	14
Statement	216	353	280
Reason	94	148	142
Summary	3	0	0
Judgement	35	41	33
Question	4	7	72
Analogy	38	9	55
Inference	43	34	108
Hypothesis	2	1	4

Finally, such profiling, though interesting and useful, does not catch the holistic element – how children recall and return to earlier statements and build on them; how they interact with each other in building their ideas. Narrative analysis was required as the dominant method in this study.