LANGUAGE DEVELOPMENT IN THE TRANSITION FROM CHILDHOOD TO ADOLESCENCE:

THE ROLE OF GRAMMATICAL METAPHOR

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ABSTRACT

Language development in later childhood is often characterised in terms of increasing complexity. While other linguistic theories might describe such complexity either in structural terms or in semantic terms, it is proposed in this thesis that a systemic model might explain developing complexity in terms of the relationship between the grammar and the semantics. The thesis argues that around adolescence, there is a qualitative change in this relationship, whereby in addition to the system expanding in terms of greater delicacy, there is a compounding of the system - meanings are realised not by new additions to the system but by deploying in new ways lexicogrammatical resources already in the system which have developed to realise other meanings. There is no longer a 'simplex' (congruent) relationship between the semantics and the lexicogrammar, but a 'complex' relationship, whereby in the metaphorical[1] lexicogrammatical choice, there are (at least) two meanings immanent. Whereas the transition to the mother tongue is characterised by metafunctional complexity (the lexicogrammar allowing the child to mean ideationally and interpersonally at the same time), the transition to adolescence is characterised by a further level of complexity whereby the child is able to mean metaphorically as well as congruently.

The basis for distinguishing between the congruent and the metaphorical has been described by Halliday in terms of the phylogenetic, ontogenetic and logogenetic histories of this phenomenon. Using ontogenetic and logogenetic analysis, this longitudinal case study has demonstrated that there is in fact a marked development in the child's deployment of various categories of grammatical metaphor in later childhood. The study identifies certain uses of language in early childhood which could be regarded as 'gateways' to grammatical metaphor, including various protometaphorical categories. As the child enters school, a very limited use of some types of grammatical metaphor has been observed. In later childhood, however, there is a dramatic increase in the use of most types of grammatical metaphor. If a distinction is made between a more liberal and a more conservative interpretation of grammatical metaphor, then it is possible to identify certain uses of grammatical metaphor which develop later than others and which have significant implications for learning in secondary school.

[1] Unless otherwise specified, the term 'metaphorical' is used in this thesis as a short-hand way of referring to grammatical metaphor (as opposed to lexical metaphor).

CERTIFICATE

This is to certify that this work has not been submitted for a higher degree to any other university or institution.

Signed: .....

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INTRODUCTION

This chapter will provide an overview of the study, beginning with an outline of the study and the theoretical rationale underpinning the study. Following this, two of the major themes are canvassed: the study's contribution to a linguistically-based theory of learning and language development, and its contribution to systemic theory in terms of a clarification of the nature of grammatical metaphor. The study itself is then described in some detail, and the chapter concludes with an overview of subsequent chapters.

1.1 OUTLINE OF STUDY

This study is concerned with children's language development in the transition between childhood and adolescence. As Collins (1993) observes, our overall understanding of later language development is at best partial. Research in the area of language development often tends to focus on the early period from babyhood to school entry, viewing later development in terms of the extension and refinement of already existing resources. It will be argued here, however, that there are certain linguistic strategies which come into play only in the adolescent years. Halliday (1986c) has identified one such strategy - the ability to deal with grammatical metaphor - as indexical of language development at this later stage.

In order to investigate Halliday's hypothesis, the researcher has undertaken a longitudinal study of her son's written language, from age five to fourteen, tracing the emergence of different kinds of grammatical metaphor during this period.

1.2 THEORETICAL RATIONALE

The study is located within the theoretical tradition of systemic functional linguistics as developed by M.A.K. Halliday and his colleagues. One dimension of systemic theory is the way in which an understanding of language development can help explain how adult language has come to be organised the way it is (Matthiessen 1992a). Child language studies have therefore played an important part in the development of the theory.

Halliday (1986c) proposes that language development can be viewed in terms of certain universal characteristics, including a progression from 'generalisation' to 'abstraction' through to 'grammatical metaphor'. In identifying these phases, Halliday (1989b) is concerned not so much with the order of acquisition of grammatical elements as with the development of abstract principles underlying the ability to mean .

One might view this continuum as representing increasing levels of abstraction, each transition phase signalling distinctive qualitative changes in the developing linguistic system. Such changes would form an implication sequence, with each change dependent on the previous change.

The first major phase, **generalisation**, accompanies the child's move into the mother tongue. In this phase, the system undergoes a massive upheaval as the child moves from the microfunctions of the protolanguage into the metafunctional organization of the mother tongue. Entry into the mother tongue necessitates the use of generalisation - a fundamental characteristic of adult language (Halliday 1986c). At around two years of age, children are able to go beyond the single instance and to name classes of phenomena, recognising for example, that a red ball is a kind of a ball (Halliday 1985a). Not only can they understand the principle of 'common' words, they can understand the taxonomic principle - that some classes include other classes (Halliday 1986c).

Initially the child will tend to generalise about objects, people, actions, animals, and other material phenomena in its immediate environment. The child's linguistic repertoire consists primarily of common nouns which have concrete referents. Halliday states that, at this stage:

> ... they have mastered the fundamental semantic strategies of taxonomy, other forms of partial likeness (sameness, similarity, difference, opposition), the configurational structure of processes, and the logical relations of co-occurrence,

> counterexpectancy, time, cause, and the like that obtain between processes. (1986c, p. 2)

In a sense, the use of linguistic symbols to construe these 'doings' and 'things' is in itself a form of abstraction. A more complex level of **abstraction** is reached at around 4-5 years, however, when the child begins to use language which realises 'concepts', 'ideas', 'principles', 'sayings' - terms which have no concrete, perceptual object, property or process to which they can be seen to refer (Halliday 1986b; 1991b). Unlike the concrete, which is located in the world of the senses and can be apprehended by sight, touch, smell, and so on, the abstract is a semantic construct and can only be apprehended through language. Rather than 'coming off material reality' the child is now 'coming off linguistic reality'. The referent is now a linguistic one. Language has been freed from the constraints of its immediate environment (Halliday 1978a).

As mentioned above, the transition to abstract language coincides with entry to school. Halliday sees this as no accident:

> One thing that is clearly required, for knowledge to be 'educationalised', is the ability to cope with abstract terms; or at least to be able to attend to them and grapple with them. For the experience of education to be meaningful, this threshold must have been crossed. (1991b, p.35)

In terms of Halliday's continuum, **grammatical metaphor** can be seen as the next major stage of abstraction. According to Halliday, at around 9-10 years the child is able to comprehend metaphorical modes of expression, and to produce them at around 14-15 years (1986c; 1985a; 1991b). As an interim definition, we might say that grammatical metaphor is the strategy whereby meanings which are congruently coded in a particular way in the grammar, come to be represented metaphorically by another grammatical category. In systemic theory, it is grammatical metaphor in English which distinguishes the language of adults from the language of children.

> Most examples of adult English contain some instances of grammatical metaphor ... children's speech is largely free of grammatical metaphor of this kind; this is in fact the main distinction between child and adult language. (Halliday 1985c, p.51)

> Metaphorical modes of expression are characteristic of all adult discourse. ... The only examples of discourse without metaphor that we normally meet with are in young children's speech ... In adult language and particularly in the written mode ... there are other realisations which are in some respect transferred or metaphorical. (Halliday 1985a, p.321)

> The differences between congruent and metaphorical forms is found in an examination of children's speech. They do not use some forms which adults do: they do not use metaphorical forms. (Ravelli 1988, p.135)

Halliday sees the move into grammatical metaphor as a much more complex step in the evolution of the system (1985a). The language system, instead of expanding simply through elaboration and extension, is now enhanced by 'turning back on itself'. It is no longer a matter of constantly adding new subsystems, but of deploying existing subsystems to serve new functions. Any instance of such cross-coding will resonate with the traces of both the 'literal' and the 'transferred' meaning. In order to apprehend the metaphorical meaning, the immanent literal meaning must also be recognised. Halliday refers to this phenomenon as a 'semantic blend'. Whereas in the congruent form, we could say that we are dealing with the realization of a 'semantic simplex', in the metaphorical form, the realization is of a 'semantic complex'.

In the transition to the mother tongue, the child is able to mean more than one thing at a time through metafunctional simultaneity (Halliday 1989b). Similarly, but in a more complex way, in the transition to grammatical metaphor, the adolescent is able to mean more than one thing at a time, this time not only in terms of plurifunctionality, but in terms of the semantic cross-coding involved in metaphorical constructions. The effect of this cross-coding is to multiply the potential of the system:

> English [through grammatical metaphor] gives us many choices about how we see the world around us and many choices concerning the ways we model our relationship with experience. [Grammatical metaphor] increases the density of our experience and the complexity of our transactions with the world. (Butt 1991, p.22)

The semantic complexity may be further increased when we have instances of recursive grammatical metaphor, where one metaphor is compounded by another, requiring multiple 'loopings' through the system in order to retrieve the congruent.

These three phases of development coincide with major transition points in the life of a child. Generalisation becomes manifest at the end of babyhood, where the child takes on the mother tongue and becomes socialised into the world of commonsense knowledge. Abstraction marks the transition into the institution of schooling, and in particular to the formal learning of the written mode. Here the child is introduced to the world of educational knowledge as opposed to commonsense. Grammatical metaphor tends to become significant in the transition from primary to secondary schooling, with the knowledge now becoming technical and specialised (Halliday 1986c; 1989b).

Detailed case studies have been undertaken within the framework of systemic linguistics into the earlier phases of language development. Halliday's seminal work (1975a) on his son's language traced the growth of Nigel's earliest attempts at meaning-making, from the protolinguistic phase, through a transition period and into the mother tongue. This research has been replicated a number of times, each new study contributing a different dimension: Painter (1984) explored this infant period in great detail, demonstrating similarities and differences between strategies used by Nigel and her own son, Hal. Oldenburg (1986; 1987; 1990) looked at this period within a different context - that of a female child with an older sibling. Qiu Shijin (1984) has employed systemic theory in examining the protolinguistic development of children in Shanghai. And Bodycott (1987) has again documented this period, but this time from the point of view of how the protolanguage of a child growing up in a bilingual household (English and Spanish) is influenced by the language/s spoken by the primary caregivers.

All these studies have described development up to the generalisation phase. Later studies by Phillips (1986) and Painter (1992a; 1992b) outline further development as the child progresses to the abstraction phase. Phillips analyses the later Nigel data to identify the growth of the semantic strategy of comparing and contrasting, which is implicated in the move into abstraction. Painter this time observes the language of her second son, Steven, as he develops a variety of semantic strategies in the pre-school period.

These case studies take us to the stage when a child is about to enter school. There have been no similar case studies examining the third phase - that of grammatical metaphor in the later childhood period. This study, then, endeavours to fill this gap, rounding out the developmental progression suggested by Halliday.

1.3 TOWARDS A LINGUISTIC THEORY OF LEARNING

The above-mentioned studies are not interested simply in the documentation of the development of certain linguistic features. Moreso, they are concerned with the explication of a particular view of language and learning. Halliday (1987a) claims that the absence of any general theory of learning based on language has been a significant gap in educational thinking and practice and recommends that the development of such a theory is perhaps the most urgent task of educational linguistics. This concern is exemplified in such statements as:

> ... if we take a linguistic perspective on learning, we will be able to understand better the true nature of what it is that a child is accomplishing, and of the learning tasks, and the learning difficulties. (Halliday 1986d, p.1)

> The core of all subject learning in school is the language used to learn with and to teach with; yet this has been the most neglected aspect of educational research and of teacher training. (Halliday 1986d, p.9)

While not denying the value of cognitive approaches to learning, Halliday (1986d) feels that the linguistic aspects of learning have tended to be neglected in educational research and teacher training. A linguistic theory of learning, where learning is interpreted as a linguistic process, would serve to emphasise the functional and sociological processes involved in learning the mother tongue rather than the structural and psychological (Halliday 1978a). A linguistic theory of learning would be concerned with the construction of human experience as a semantic system, and hence with language as the major semiotic resource involved in the construing, storing and exchanging of experience as meaning. (Halliday & Matthiessen (in press), p.1) Halliday goes so far as to propose that:

> ... there is no ordering of experience except the ordering given to it by language. We could in fact define experience in linguistic terms: experience is the reality that we construct for ourselves by means of language. (Halliday & Matthiessen (in press), p.3)

Halliday (1987a) has listed the development of generalisation, abstraction and metaphor as one of the components of such a theory. A further goal of the present study, then, will be to contribute towards the development of a linguistic theory of learning by attempting to interpret and explain linguistic development in later childhood in the light of social and linguistic factors.

1.4 THE SIGNIFICANCE AND NATURE OF GRAMMATICAL METAPHOR

The notion of grammatical metaphor is a relatively recent development of systemic theory, being first mentioned around 1983 (Halliday 1983b, p.7). In this short space of time, however, it has assumed a central role in the theory. Matthiessen describes metaphor as 'a fundamental strategy for expanding our understanding of 'reality' ' (1992b, p.40). Martin (1992a) sees grammatical metaphor as the main facilitating resource in the creation of text:

> It is the scrambler - it processes meaning in natural and unnatural ways, depending on what texture demands. It orchestrates the many to many relationships among discourse and lexicogrammatical meanings, thereby indefinitely expanding the scope of the content plane as a meaning making resource. It provides the technology needed to predict and accumulate meanings. It makes a text like a clause; it makes a clause like a text. It thingizes and naturalises, it dissembles and reveals. ...
>
> Grammatical metaphor then is the meta-process behind a text. It co-ordinates the synoptic systems and dynamic processes that give rise to text. It is the technology that lets the modules harmonise. It is their medium, their catalyst, the groove of their symbiosis, their facilitator, their mediator. It is the re-source of texture. (p.280)

Martin (1992a) regards grammatical metaphor as linguistics' most important tool for understanding discourse semantics and the key to understanding text in context.

Given that grammatical metaphor is perceived as such a significant aspect of systemic theory, it is a surprisingly undertheorised notion, surrounded by a great deal of misinterpretation (see Martin 1991b, p.118) and modelled in inconsistent and contradictory ways. A vast proportion of the effort invested in this study has in fact been devoted to mapping the various ways in which grammatical metaphor has been characterised in the literature and trying to clarify areas of disagreement.

Two major sources of equivocation relate to the complementary issues of 'what counts as metaphorical?' and 'what counts as congruent?'. In order to establish categories for the analysis, it was necessary to sort through various accounts of 'what counts as metaphor?' and to develop a cline from more conservative through to more liberal interpretations of this phenomenon. Even within the conservative interpretation it became necessary to introduce borderline categories such as 'proto-metaphor' and 'faded metaphor' and to range different types along a continuum of 'more simple' to 'more complex'. A significant outcome of this study, then, has been the clarification of the boundaries of grammatical metaphor and the further development of a taxonomy of types of metaphor.

Similarly, the question of 'what counts as congruent?' required addressing. In most definitions of grammatical metaphor, the congruent is described in terms of being the most 'typical' or 'unmarked' choice in the grammar (Ravelli 1985; Ravelli 1988; Bateman 1990; Halliday 1985a). While congruent realisations are likely to also be typical (though not always), it is not 'typicality' which characterises congruence. Rather, according to Halliday (1989b), we need to take a historical perspective:

> ... meaning is itself a historical process. Meanings are made by people who have meant before; they relate to prior acts of meaning; and their source is a meaning potential that has been transmitted, as a metastable system ... over a very long time. The impact of a text is dependent on its location in this complex semo-history, at the intersection of the various dimensions of that history where we ourselves are located when we enact it or hold it up for investigation. (p.13)

In making a decision as to which realization is the congruent, it is necessary to trace the evolution of the choice in question in terms of the history of the language (phylogenesis), the history of the particular text (logogenesis), and the linguistic history of the individual (ontogenesis). Substantial work has been carried out into the first two of these histories - Halliday has traced the development of grammatical metaphor from the times of the Greeks through to modern times; and Martin, Halliday, Matthiessen and others have described how textual patterns tend to build from the more congruent towards the more metaphorical. But the third factor in establishing what counts as congruent - the move from the congruent to the metaphorical in the life of a child - has not previously been the subject of empirical investigation. In providing evidence regarding the growth of grammatical metaphor in the language of children, the present study will provide a basis for deciding whether it is appropriate to include ontogenesis in the rationale for congruency.

1.5 GOALS OF STUDY

To summarise then, the goals of the present study are

- at the broadest level, to make a contribution to the investigation of language in later childhood/ early adolescence - an area often neglected in language development research. More specifically, the study aims to extend the study of child language within systemic theory by documenting the evolution of grammatical metaphor in later childhood, thereby fleshing out the later phase of Halliday's developmental continuum (generalisation - abstraction - metaphor) and contributing towards a linguistic theory of learning

- in doing so, to help clarify the nature and parameters of grammatical metaphor, a notion which has assumed a significant position within systemic theory but which remains the subject of debate

1.6 DESCRIPTION OF STUDY

At this point, a relatively detailed description of the study will be provided.[1] This section also canvasses such methodological questions as the choice of an appropriate paradigm, the nature of the relationship between researcher and subject, the collection of data, and the tools used in its analysis.

1.6.1 Research paradigms

As will be noted in Chapter 2, two major paradigms have tended to dominate the theoretical approaches to studies of child language development - those concerned with 'form' and those concerned with 'meaning'. These different theoretical positions have implications for the type of research methodology adopted. If, as in many psycholinguistic studies of language acquisition, language is seen as a set of formal rules and the task of the researcher is seen as determining the sequence in which certain syntactic or phonological features are mastered, then an experimental approach might be considered appropriate. If, however, language is viewed as a social process in naturally occurring contexts, then a naturalistic approach would be favoured. These two paradigms each offer different perspectives on language development, carrying with them different assumptions about the nature of language and how it is learned. Naturally, the choice of methodology constrains the nature of the claims one is able to make.

Experimental studies allow for observation with identified and controlled variables, yielding information which cannot be provided definitively by observation alone. The value of experimentally elicited data lies in the degree of control over the diverse span of material to which a child must respond. Wells (1986) points to the fact that when carefully designed to evoke what the researcher intends to test, experimental studies can be an important source of evidence for hypotheses based on reliable information from naturalistic studies and can eliminate skewing of a sample that arises from unknown reasons in naturalistic data. Such studies can also answer specific, isolated questions with better efficiency and control of contributory conditions and the tasks can be

[1] Traditionally, methodological issues would be canvassed in later chapters. It was felt, however, to be more appropriate to include this description here so as not to disrupt the flow of the body of the thesis.

repeated both as a means of comparison within groups and across age groups (Bennett-Kastor 1988).

While experimental studies generally rate highly in terms of reliability, the naturalistic researcher might raise questions about the validity of much experimental work in language development. Halliday (1992c) makes the observation that, of all forms of human activity, language is perhaps the one that is most perturbed by being performed under observation:

> One of the problems that bedevils all linguistic research is this: that because of the unconscious nature of language and language behaviour, it is very hard to study language experimentally: people behave differently, and they behave much less effectively, in experimental situations when they are made conscious of what they are doing. (1986b, p.16)

Under experimental conditions, a child is more likely to display linguistic behaviour at a level far below that at which he/she performs when behaving naturally. (Halliday 1978e; 1986c; 1991b) Karmiloff-Smith (1986) points out that over-5 year olds seem to have a wide repertoire of linguistic procedures but are inconsistent in their use of them in experimental tasks. She refers to this as 'the experimental dilemma', where on the one hand if experiments are designed to be as 'clean' as possible they will not reflect the child's typical everyday behaviour, while on the other hand, experiments with all the extralinguistic and discourse clues normally available in language may 'muddy' the examination of the linguistic category under study.

Bennett-Kastor also raises questions about problems with experimental design in terms of execution, analysis and interpretation, including children's differing perceptions of the task, the question of boredom and fatigue, and the limitations imposed by the researcher's assumptions and by the situations which are provided for the children.

While it may be relatively easy to elicit and quantify the child's use of certain syntactic structures in experimental situations, when one is concerned with explaining the development of children's potential to **mean** it is necessary to acknowledge the complex and indeterminate nature of meaning and the relationship of the meaning to the context in which it was being construed. When discrete aspects of language are artificially elicited in contrived situations, they fail to give an account of the totality of what a child can mean.

Naturalistic methodology also has its drawbacks and advantages. Objections to naturalistic studies are often raised with respect to the issue of reliability. The degree of

reliability will depend to a large extent on the nature of the analytic tools. Without an explicit and systematic account of language as system - including the grammar - much qualitative discourse analysis degenerates into a series of anecdotal snippets or running commentaries on the text - a private interpretation in which 'one explanation is often as good or bad as another' (Halliday 1985a, p.xvi).

A further complication is that naturalistic settings are characterised by multiple contexts with their uncontrolled, unidentified variables. The production of certain data may be left to chance or circumstance and skewing in the data may occur for various reasons. It is never possible to know what the relationship is between the data obtained and the child's full production capability (Bennett-Kastor 1988). Naturalistic researchers are dependent on data obtained from weeks and months of monitoring children's behaviour in order to observe the occurrence of particular instances and are often hindered by the fact that data are limited to what the subject happens to say during the sampling period. The logistics, particularly in longitudinal studies, can be quite daunting in terms of accurate recording and transcription, comprehensible organization and systematic coding of data. Results can be questioned on such grounds as interpretations being made by a participant, not by a detached observer, and the lack of control situations to validate interpretive judgements. Furthermore, naturalistic studies are almost impossible to replicate, and they cannot adequately answer questions of causation (Wells 1986).

The naturalistic researcher might argue however that qualitative data requires procedures which are sensitive to the questions being asked. The credibility of naturalistic research resides in such practices as triangulation as a verification technique providing multiple perspectives, detailed descriptions of the context, and presentation of the raw data with a clear explication of the method of analysis in order that others might interrogate the interpretations.

Recent developments in child language research have seen a trend towards the complementary use of experimental and naturalistic methodology. A case study, for example, might provide input to the working hypotheses on which an experimental study might be based. Conversely, the results of an experimental or quantitative study might be further validated by insights from an ensuing or concurrent case study (Bennett-Kastor 1988; Painter 1992b; Halliday 1991b):

> ... it is necessary to back up the vast amount of experimental psycholinguistic studies of children's language with a substantial number of language diaries of individual children. Intensive observation of this kind gives an insight into the total meaning potential that the child has in real life situations at a certain age.

> And this may be very different from anything that can be brought out under experimental conditions. (Halliday 1978e, p.13)

In the present study, the analysis of the data will be primarily qualitative, though at certain points the data will also be quantified.

1.6.2 The research questions

The primary motivation for this study was to confirm or disconfirm Halliday's contention that grammatical metaphor becomes a significant indicator of linguistic development in later childhood. At its simplest level, then, the study aimed to document the growth of grammatical metaphor from early childhood through to adolescence. If a significant increase in the use of metaphor was identified in later childhood, then this would substantiate Halliday's description of language development in terms of three major phases of generalisation, abstraction and grammatical metaphor. If no such increase was observed, or if the child was observed to be using grammatical metaphor in early childhood, then this might bring into question Halliday's claim.

In order to describe with some degree of delicacy any trend towards the metaphorical, it would be necessary to distinguish various types of metaphor. This would then allow for an evaluation of the significance of the development of particular types of metaphor. It was thus necessary to further develop a taxonomy of types of grammatical metaphor. In undertaking this task, however, it became apparent that there was a certain amount of confusion in the systemic literature as to what counted as metaphorical and how the different types were to be labelled. The resolution of these issues became a research question in itself, in terms of clarifying the theoretical basis of grammatical metaphor.

During the course of the study, further questions became salient: how did the use of metaphor differ according to the context in terms of register/genre? was it possible to identify more complex uses of metaphor as the child grew older, and how was 'complexity' to be characterised? how was grammatical metaphor learned and what role did it play in the learning process? what is the significance of metaphorical developments and what implications might be perceived for schooling? These questions will be addressed in later chapters.

1.6.3 Description of study

The present study is an account of certain features of the language development of the researcher's son, Nick, in the transition from childhood to adolescence. Given that the study is informed by a theory which sees language as a semiotic process, the research methodology adopted is from within the naturalistic tradition. The approach taken is primarily ethnographic, in the sense that it documents the minutiae of unsolicited, everyday behaviour within the context of a micro-community, drawing on a variety of data types - observations, fieldnotes, interviews, recordings, written texts - across a range of situations.

More specifically, this study is a longitudinal case study of the researcher's own child. This description immediately raises some methodological issues. While the case study has all the problems associated with naturalistic studies in general, it does allow for the intensive study of a single subject, providing very rich data the scope of which would not be possible using other methodologies. The longitudinal case study permits one to trace the intertextual continuities as the child's linguistic potential evolves, to view the essential transitions of language use from one point to the next, the dynamic nature of these transitions within the context of the 'ever-unraveling story of the life of an individual child in interaction with the surrounding world' (Bennett-Kastor 1988, p.62):

> What the detailed case study of an individual child shows is that overall pattern of learning through language that emerges when one is able to build up a cumulative picture of the ongoing discourse that is associated with a particular topic (such as cats) or a particular semantic strategy (such as comparison and contrast). It also ensures that the greater part of the interaction that is recorded can actually be understood - which can be quite difficult without the cumulative context. (Halliday 1991b, p.28)

The case study is also responsive to unexpected and changing conditions which occur during the course of data collection, permitting continual reformulation and re-evaluation of questions and problems.

The function of a case study is not to provide evidence of universals or certainties, but to illuminate our understanding of a phenomenon through the intensive study of a specific instance, some aspects of which will be typical of a given group. We are not so much interested in Nick[2], for example, as a unique individual (though certain instances of his behaviour may be idiosyncratic), but rather in Nick as representative of a particular population and in the identification of general trends which can then be further probed using more efficient research methodologies or by conducting comparable longitudinal studies.

[2] The subject was consulted about whether to use a pseudonym or not, but decided that he would like his real name to be used. He did however state a preference for Nick, as opposed to the more formal Nikolai.

While it is generally unsound to attempt to draw global conclusions from the results of a case study, it is possible to speculate on typicalities and patterns if the parameters of the study are sufficiently defined. We might say of the present study, for example, that the broad picture of Nick's language development is likely to be typical of most children in literate societies. Specific features and strategies however may be due to contextual variables such as education and occupation of the parents, gender, position of child in the family, amount of talk in the household, the child's intelligence and personality, the classroom context, and so on (Halliday 1991b). The more these factors are specified and taken into account, the more precise and confident we can be with about our observations and conclusions. The recognition of contextual variables which might affect a child's exposure to and use of grammatical metaphor will be taken up in Chapter 8.

The notion of parent as researcher also needs to be addressed. From the experimentalist's point of view, the objectivity issue of researcher as participant is compounded by the additional factor of researcher as parent participant. In such studies, the possibility of bias and lack of distance needs to be recognised and measures taken to ensure the credibility of the study. As with any participant observer study, procedures need to be established for the collection and analysis of data, and the interpretation (potentially the most vulnerable to claims of subjectivity) needs to be scrutinised by a third party for signs of parental myopia. This needs to be balanced, however, with the benefits which can be derived from being a parent/researcher. As an 'insider', the parent has virtually unlimited access to the subject. While many child language development studies involve sampling at predetermined time intervals (e.g. Wells' Bristol project), the parent is able to observe the evolution of the child's language, monitoring significant changes as they occur. The study is conducted by a person who best knows the child, with all his past history, routines and idiosyncrasies (de Villiers & de Villiers 1979, p.13). The parent researcher is able to see how children use their language to learn in their natural environment in home and family, with an understanding of the context and all the intertextual meanings that the child is drawing on:

> Now, in a study of the development of syntax, in which one is simply interested in whether or not, and in what order, children have acquired certain syntactic patterns, it does not matter in the last resort whether the investigator understands the passage or not provided its structure can be identified. But in a study concerned with the development of the power to **mean** - semantic development - and with the extent to which children are able to use language as a means of learning, then it is essential to be able to understand what they are saying. (Halliday 1986b, p.18)

Parents are in an almost unique position to trace the continuity of systemic developments over months and years and the cumulative interrelatedness of instances. As Bissex (1980), one of the better known parent researchers, points out, such extensive and detailed studies would be almost unmanageable by any investigator other than a parent.

In terms of validity, it could be argued that, rather than being seen as potentially prone to suspect interpretations, parent researchers are in fact in a much better position to be able to interpret particular developments within the context of the whole. Not only is the parent better placed to understand the significance of the child's utterances, he/she is familiar with the other participants in the family discourse, and is more likely to be aware of the contributions of others (including his/her own) to the child's developing repertoire. There is the further argument that, in terms of Labov's 'Observer's Paradox', the effect of the researcher on the phenomenon being investigated is diminished when the researcher is a member of the household and can unobtrusively note on-going instances, as opposed to the disruption of an outsider intruding on the situation or trying to artificially replicate the situation. Painter (1984) claims that the traditional apprehension of psychologists regarding participant-observers is being replaced by a recognition that, particularly when researching child language development, the 'insider' approach is in fact preferable to the 'fundamentally misconceived' tightly structured experimental situation which is inappropriate in attempting to understand the communicative process within the reality of shared experience.

There is, however, the question of the extent to which the participant-observer impacts on the data being generated. As a parent, it is inevitable that he/she will participate in the everyday interaction of the household. As a researcher, however, there is the possibility that certain interventions will be made that will make the collected data unrepresentative. While much of the data in this study is typical parent-child and family interaction, the taped reflections on Nick's texts are not characteristic. This will be considered in the discussion of the data. Furthermore, with regard to some of Nick's written texts done as homework, the degree of one-to-one conferencing and revision may have had the effect of making Nick more aware of his use of language. If grammatical metaphor is more likely to occur in texts which are more reflective and which have been carefully 'crafted', then some of Nick's written texts might display a higher incidence of metaphor than the norm. Although, for these reasons, some of Nick's texts may be somewhat atypical, what is of equal interest is the issue of what children are capable of doing given certain conditions, as opposed to what they typically do under 'normal' conditions. So while most of the data will give a fair indication of

what is typical, there is also evidence to inform the 'maturation' question, which will also be discussed later.

A further aspect of parent-as-researcher which needs to be considered is the relationship between 'researcher' and 'subject'. When the relationship is one of parent and child, particular ethical issues arise such as the willingness of the child to be a participant, the possibility of exploitation, however unconscious, of the child, and the risk of the relationship becoming distorted.

1.6.4 Description of subject

In describing the subject of this study, an attempt will be made to include sufficient information on any aspects which might contribute to an understanding of his linguistic development. As this is one section of the thesis which could be susceptible to parental self-indulgence, this part has been reviewed and validated by a number of friends and colleagues who are acquainted with the subject. In addition, the subject himself has read this chapter and felt it gave an accurate portrayal of the project and his role in it.

Nick is the first born son in a nuclear family of two adults and two children. He was born on April 3, 1978, and at the time of writing up this study, was fifteen years old.

Nick could be described as a risk-taker with an outgoing personality. He is articulate and confident. He had no qualms, for example, in delivering a semi-prepared talk (at age ten) to a hall full of Chinese students when living in Beijing. Similarly, at age fourteen, he co-presented a seminar on computer technology with his mother to an audience of academics, fielding questions with considerable maturity and aplomb. He has taken part in a number of theatrical productions, including the lead role in a musical. In other contexts, however, he is equally capable of being uncooperative and sullen, and has a tendency to be physically aggressive.

He has been brought up on a farm near a small country town, making after-school play with peers an infrequent occurrence. He does however participate in a number of sports and regularly plays in competition. He has travelled extensively, resulting in absences from school for periods of up to three months. When he was young, he attended Ukrainian ethnic school for a number of years, but did not become proficient in the language.

As a student, Nick hovers around the mid to lower levels of the advanced classes and has not generally taken a very serious approach to his schoolwork. His teachers regard him as 'bright' (though unorganised and inconsistent) and if IQ tests are to be taken seriously, he has a high intellectual potential. He is an avid reader (though not of textbooks), watches a great deal of television and spends hours on the computer.

Nick's father is of Ukrainian descent who has lived in Australia since age four. He practises as a solicitor. His mother, the researcher in this study, is Australian-born and lectures in language education. His brother, Stefan, is eighteen months younger and acts as Nick's 'verbal sparring partner'. Nick regularly visits his grandparents and cousins.

One factor of possible interest to this study is the fact that Nick has been severely hearing impaired (sensori-neural) from birth and relies on hearing aids in both ears. The family has always taken the view that this would not affect how Nick is treated, and in fact Nick leads a absolutely 'normal' life in this regard, his hearing not being an issue either at home or at school. In terms of the present study, it is the opinion of the researcher that this factor does not constitute a significant variable, except to the extent that Nick has had intensive support, particularly in the early years, in his language development. This experience could have had the effect of making him unusually conscious of language.

1.6.5 Relationship between researcher and subject

From the time Nick's language became the focus of this study, he was aware of the fact that his language was being monitored, though attempts were made to keep the data collection very low-key and unobtrusive. In order not to make him overly self-conscious, his brother's language was similarly recorded, and a vague explanation was given in terms of 'I just want to see how your language is going'. This was initially interpreted as an interest in their pronunciation, but Nick soon intuited the nature of the study, as evidenced by this unexpected explanation, at age 8, to a friend:

> ... it's what I can write during a difference of time, whether it gets better or it gets worse or it's basically the same during the years.

When given the option of choosing a topic for a school project at age 10, Nick proposed that he do 'a project on projects' which would involve him asking class members for 'the latest one we can find and the first one that we did in about first class'. He

intended to look at ‘the language of projects ... how the language has changed and why they changed it and what a word means and what it would mean in the language that they used in first class’. In formulating this proposal, Nick was obviously aware of and influenced by the research project in which he himself was involved at home. He even suggested that ‘it would also help mum with her project at the university about the language of kids and how it develops’.

At this point, it was decided to take advantage of his articulateness and interest and invite him to become a participant in the research. The nature of the project changed at this stage from simply making observations and collecting his written texts, to actively involving Nick in explicitly discussing and reflecting on his use of language. While there is a danger that the subject's knowledge of the nature of the research might result in self-conscious monitoring of his own language, this in fact appeared not to be the case. Given the vastness of the data collected in all sorts of natural and spontaneous contexts and the rather complex nature of the research question, it is probable that Nick's broad awareness of the research question did not influence to any significant extent his use of language. When asked whether he felt uncomfortable about my involvement in his homework, he replied:

> N: No! 'Cause I - I get the main ideas - you sort of change a few words that make it easier to understand, 'cause the parent is sort of like the reader - and so that's from a reader's point of view and a writer's point of view. So you're working with the two of them. So it's a lot easier - you can see it from both point of views.
>
> B: But do you think that my help stops you thinking for yourself?
>
> N: No, 'cause as long as you don't say the word for word for word, then it's okay. ... The adult makes the frame, the child makes the painting. *[age 11]*

At first, Nick's co-operation was limited to saving all his pieces of writing - from scribbles and drafts to completed texts. This was extended to a more explicit reflection on his writing during homework sessions. As there had been a history of intensive, relatively formal language work since babyhood, due to his hearing loss, Nick was accustomed to discussing at length his homework with his parents. It was decided to tape these sessions as we 'conferenced' about different aspects of his writing.

Nick's reaction to being involved in the project has generally been very positive. There have, over the years, been the occasional threats during temper outbursts ('I'll erase your tapes!'), but on the whole the experience has, if anything, enhanced the relationship between mother and son. It has provided a point of common interest and engendered

many a long discussion which otherwise might not have occurred. It has necessitated keen observation by the researcher of her child's development, and it has provided the subject with some uncommon parent-child interaction and a feeling of being 'special'.

1.6.6 Data

As with most ethnographic studies, the types of data collected were several and the accumulated texts and notes were voluminous. As this was a naturalistic longitudinal study, it was important to collect sufficient data - oral and written - in a range of contexts which would provide evidence of the development of different types of grammatical metaphor over time.

Because grammatical metaphor is more typical of written language, the core data became Nick's written texts. Everything that the researcher had access to was collected - from preschool to secondary school. (More precisely, the collection spans from age 4 to age 14 [3].) Texts included letters written to friends and relatives, notes to his mother and the tooth fairy, and travel diaries, but were primarily related to school - tests, projects, classwork, homework.

These written texts were word processed and organised chronologically as well as according to text type (as far as possible). The most common type of text written was various kinds of recounts (78), followed by narratives (34), reports (28), book reviews (19), expositions (14), procedures (12), explanations (10), poems (5), observation/ comment (5), letters (5), biography (3), with a few miscellaneous (learning journal, notices, descriptions). This quantitative analysis does not, however, give an accurate picture, as the length of these texts and the amount of effort expended varied considerably.

It was decided that in order to quantify the instances of grammatical metaphor at different ages and in relation to different genres, it would be necessary to specify the number of clauses written in each year and each genre. Growth in the use of different types of grammatical metaphor could then be calculated in terms of a percentage of clauses written. The following Table gives an overview of the number of clauses written in each year, roughly according to genre. (Drafts have been included in the count only where they differed substantially from the final product.)

[3] Nick's age will be referred to in round figures unless a more specific age is required, in which case it will be written as e.g. 10:4 (ten years and four months).

	Yr 1 1984	Yr 2 1985	Yr 3 1986	Yr 4 1987	Yr 5 1988	Yr 6 1989	Yr 7 1990	Yr 8 1991	Yr 9 1992
RECOUNT	65	180	75	36	365	139	425	198	95
HISTORICAL ACCOUNT					177	43		142	89
NARRATIVE		211	67	95	56	100	199	257	141
PROCEDURE		16		51	16	87	14		
REPORT		14	15	9		415	221	375	
EXPLANATION				25	29		15	50	62
EXPOSITION				20	4	416	27	183	
REVIEWS						100	31	365	272
BIOGRAPHY			7	6	37	125		27	271
OTHER	8	20	19	43	10	8		41	36
TOTAL: 6404 clauses	**73**	**441**	**183**	**285**	**694**	**1433**	**932**	**1638**	**966**

Figure 1.1: Number of clauses per grade and per genre

As indicated in the above Table, writing in Year 1 was restricted to recounts of personal experience, primarily telling of holiday trips. Year 2 was an unusually productive year, due to the teacher's interest in writing. Recounts (in the form of a daily diary) and narratives predominated, with the occasional procedure and report, a poem and a letter. The output in Year 3 was much lower, again emphasising recounts and narratives. Year 4 saw a greater diversification in the types of texts written, with a substantial increase in the number of clauses written. In Year 5, there appears to have been a dramatic increase in volume, but this was largely due to two major projects done at home - one an historical account of China's history arising from Nick's trip to China and the other a recount of his experiences in a musical production. Nick's written output more than doubled in Year 6, again under the influence of a teacher who valued writing very highly. The number of recounts decreased (though were now more a recounting of experiments and the like), and there was an enormous increase in other areas, in particular information reports and summaries of the television program, 'Behind the News'. Exposition was given prominence, and reviews and biographies were introduced. In Year 7, Nick's first year of secondary school, considerably less writing was done and consisted primarily of recounts (mainly of a historical kind), narratives and reports. The greatest amount of writing was done in Year 8, with literature reviews

assuming much more prominence. In Year 9, production decreased, with fewer reports being written and surprisingly no expository texts.

In addition to the finished products, it was considered important to keep the drafts whenever these were available, as the changes between drafts might have been significant with regard to the use and logogenetic development of grammatical metaphor. Where possible, any reference material used in the production of a text was photocopied, as this was felt to be an important factor in ascertaining the extent to which Nick's writing drew on other sources. Unfortunately, when work was carried out at school, it was not always possible to get access to such materials.

In order to document the circumstances surrounding the writing of those texts written as homework, fieldnotes were kept and tapes were made of the interaction between Nick and his parents as he brainstormed, drafted, revised and reflected on the text. Not only do these tapes serve as records of contextual influences on Nick's texts, they also provide evidence of his use of oral language. These taped homework sessions were augmented with the taping of Nick using oral language in a variety of contexts - playing with his brother and cousins, talking at the dinnertable, watching television, recounting the plot of a movie, travelling in the car with his schoolmates, interviewing an adult family friend for a project, and the like.

In the early stages, an attempt was made to use radio microphones attached to the clothes of the brothers, but these proved to be too much of a novelty and too cumbersome, so a pocketsize taperecorder was used from then on. Some of the early recordings were made without Nick being aware of the taperecorder, in order to ensure spontaneous, non-self-conscious discourse. It was found, however, that Nick soon adjusted to being taped and tended to pay no attention to the presence of the taperecorder. Nick would usually, in fact, operate the recorder, turning it off when he preferred not to be taped. At times, in the middle of a conversation, he would get a knowing look in his eye and say 'Mum, I think I'd better get the taperecorder!'

In all, some thirty hours of interaction were taped. These tapes have been transcribed, but the transcription has not been included with the thesis.

Sometimes it was not convenient to use the taperecorder, so a number of notepads were kept in strategic places (the kitchen, the study, the car, the family room) in order to jot down spontaneous utterances which were of interest, particularly with regard to the oral use of grammatical metaphor. These notes have been entered onto a data base (some 300 entries). These notepads were also used to keep a record of significant contextual

factors (date of utterance, linguistic context, situation, how child was responded to, and justification of selection of utterances).

Much of the audiotaped and fieldnote data belong to the 'diary study' tradition in developmental linguistics. Since the nineteenth century, linguists such as Grégoire, Leopold, the Chamberlains, and Velten have kept diaries of the natural, unsolicited speech of their children within the family setting (de Villiers & de Villiers 1979; Halliday 1983).

In addition to Nick's data, texts written by his brother have similarly been collected. These will not be referred to in this study, though where it is of interest, some of his oral interaction has been included.

1.7 OVERVIEW OF THESIS CHAPTERS

Following this introduction, the theoretical basis for the study will be developed in some detail. In relation to the first aim of the study, Chapter 2 will seek to locate the present study within the field of research into language development in later childhood. The phenomenon of grammatical metaphor itself has not been the object of study in language development research precisely because it is a construct arising from the stratified model of language which distinguishes systemic linguistics from most other linguistic theories. The notion of stratification has been taken as the basis for structuring the literature review. Whereas systemic linguistics proposes a natural relationship between the semantic stratum and the lexicogrammatical stratum, other theories on which most developmental studies are based tend to emphasise either 'form' or 'meaning' without systemically investigating the relationship between these two.

Chapter 3 contrasts such studies with research into language development based on a systemic model. This chapter draws on research carried out by systemic linguists into language development in early childhood, describing early development in terms of the child's elaboration of a stratified, multifunctional model of language. The chapter then goes on to discuss how it is this very stratification which opens up the possibility of grammatical metaphor in later childhood and adolescence.

Chapter 4 examines in greater depth the nature and role of grammatical metaphor, concluding with a taxonomy of metaphorical categories.

The subsequent chapters are developed around the trilogy of phylogenesis, ontogenesis and logogenesis in relation to the development of grammatical metaphor. These three histories are seen as central to the question of what counts as metaphor. Chapter 5 describes briefly Halliday's study of the phylogenetic evolution of grammatical metaphor. Chapter 6 addresses the ontogenetic development of grammatical metaphor as identified in the present study. The data is analysed in order to examine the growth in the individual child of various categories of grammatical metaphor. Chapter 7 continues the analysis of data, but whereas the previous chapter tended towards a quantitative analysis, this chapter adopts more a more qualitative approach, analysing a number of texts in order to demonstrate how certain types of later-developing, more 'complex' types of grammatical metaphor are implicated in the logogenetic unfolding of texts.

Chapter 8 discusses the findings in relation to the twin aims of the study. Firstly, the nature of grammatical metaphor itself is considered in the light of the analytical categories developed for the study. And secondly, certain conclusions are drawn regarding the development of grammatical metaphor and its relationship to learning in the secondary school.

CHAPTER 2

RESEARCH INTO LANGUAGE DEVELOPMENT IN LATER CHILDHOOD

This chapter will seek to locate the present study within the field by reviewing a number of studies which concern themselves specifically with language development in the period of later childhood to adolescence. It will be argued that most studies tend to view development in terms of either an increasing 'structural' complexity or an increasing 'semantic' complexity. The present study will go on to argue that it is not a case of 'either semantics or structure', but rather that, within a stratified model, later language development can be seen in terms of an increasingly complex relationship between 'structure' and 'meaning'.

Most discussions of language development tend to characterise language development in terms of 'increasing complexity'. The notion of complexity is understood however in different ways. This review of the literature has therefore been framed according to the various ways in which the notion of 'complexity' has been conceived of by selected studies. These studies have been considered according whether they emphasise either 'semantics / meaning' or 'grammar / form' in explaining increasing complexity in language development. Naturally, this is not always a clearcut opposition - most studies acknowledge both perspectives to some degree - and yet it has been the subject of debate for some time and would therefore appear to provide a useful framework for the discussion. The terms 'meaning' and 'form' are being used here rather loosely, reflecting the often ill-defined way in which they tend to be used in the literature. The term 'meaning' will be used to refer to such diverse notions as 'function', 'semantics', 'use', 'communicative competence' - that is, any construct which attempts to explain language in terms of something beyond its structural manifestation. The term 'form' will be used to include 'structure', 'code', 'syntax', 'grammar' (or in the case of systemic linguistics, 'lexicogrammar').

2.1. THE 'MEANING - FORM' DEBATE IN DEVELOPMENTAL RESEARCH

Research into language development in childhood and adolescence over the past few decades has been dominated by two major paradigms - one deriving from rhetoric and ethnography which emphasises the developing functions or uses to which children put their language system and one with its roots in logic and philosophy which describes development in terms of the acquisition of grammatical structures (Campbell & Wales 1970).

The historical origin of this division has been traced by Halliday to the classical grammars of the ancient Greeks. The earliest descriptions of 'grammar' were in terms of the functions of oral language as interpreted by the sophists and rhetoricians - 'the first attempts at syntax were tied to rhetoric, to an explanation of what it is that makes spoken discourse effective' (1985a, p. xxviii). Language was seen as a means of action, a resource for putting ideas across to others, and its primary concern was with meaning - and the relativity of meaning in relation to rhetorical function. This view of language was also espoused by the Stoics, who explicitly separated linguistics from philosophy and grammar from logic. Their approach, which appears to have included a three-level system of language, seems to have been of a more descriptive or ethnographic nature and to have included a concept of 'realisation' embodied in their theory of the sign (Halliday 1977c).

With Aristotle, however, there was a move to an interpretation of syntax in terms of 'logic'. Language was seen as a set of constituent rules concerned with classes or units of discourse rather than functions. Grammar was now described in terms of syllables, conjunctions, articles, nouns, verbs, affixes and sentences, defined in terms of rules for their combination. Halliday (1977c; 1984) again identifies this approach to grammar in medieval times in the theories of Modistae, who laid the foundations of formal syntax. And in the period following the Renaissance the philosophical tradition was kept alive by the French rationalise grammar and the English school of universal semantics. In the twentieth century, it has found expression in the formal grammars (structuralist, transformational, categorical, government and binding, generalised phrase structure, and so on) of such linguists as Bloomfield, Chomsky and Lyons. Corson identifies the origin of recent disregard for 'semantics' as Bloomfield's 1933 publication, *Language*, 'where he describes meaning as not susceptible to direct investigation since it is too all-embracing' (1985, p.4).

The ethnographic approach, meanwhile, saw a revival in the eighteenth century as anthropologists sought to document the vernacular European languages and the languages of the natives of Asia, Africa, the Pacific and the New World. This tradition became dominant in the nineteenth century and has been pursued more recently in the work of Boas, Sapir, Malinowski, Hjelmslev, the Prague school, Firth and the London school, Pike, Halliday and others.

Halliday (1977c) summarises the different positions by describing the 'descriptive-ethnographic' as descriptive in orientation and concerned with meaning in relation to rhetorical function, while the 'philosophical-logical' is prescriptive, or normative, in orientation and concerned with meaning in relation to truth. The former sees language as action, the latter sees language as thought. The former represents language as choices, or as resource, and stresses the semantic interpretation of discourse, while the latter represents language as rules, stressing the formal analysis of sentences.

> A formal account of grammar takes the forms as point of departure and is primarily concerned with formal relationships. A functional account takes the functions as point of departure and is primarily concerned with semantic relationships. (Halliday 1986e, p.5)

These two strands of linguistic thought have co-existed over the centuries, and only in the mid-twentieth century became polarised into seemingly irreconcilable camps. They are not, however, necessarily contradictory[1], but rather can be seen as two perspectives (Halliday, 1977c; 1978a). While both approaches are equally concerned with the system, they differ in their interpretation of the relation between system and behaviour, and in their conception of the degree and kind of idealisation involved. Philosophical linguistics, in the extreme case, idealises language to the point where it becomes maximally reduced to an artificial logical language. Ethnographic/descriptive grammars on the other hand, tend to minimise the gap between the ideal and the actual, drawing on language-in-use for their data (Halliday 1974; 1977b; 1977c; 1984; Matthiessen 1992a).

2.2. STUDIES WITH A 'FORMAL' EMPHASIS

Grammarians of the 'philosophical' persuasion have tended to describe language as system or code in isolation from behaviour, use or context. Research studies drawing

[1] Though Halliday does note their ideological differences, with the philosophical linguists tending to be absolutists and the ethnographic linguists tending to be relativists (1985a; 1977c)

on such grammars were therefore concerned with the acquisition of particular grammatical structures.

From the early sixties, the major research thrust in the area of language development was to document the emergence of syntactic structures from the more primitive to the more complex. Studies in early language development tended to be concerned with the acquisition of structure, word order, and morphemes. Because children start to combine words at about eighteen months, this was generally taken as a natural starting point for studies of language development. The following is typical of developmental sequences describing the acquisition of increasingly complex linguistic forms:

- one word utterances
- two word utterances
- morpheme inclusion
- transformations
- complex constructions
- graphic representations (Lock & Fisher 1984, p.6).

Under the influence of Chomsky, language development was seen as the acquisition of syntactic rules by means of hypothesising about the surface structures of language heard in the environment and fitting the perceived patterns into the framework of universal deep structures which were built into the child's genetic makeup and stored within an innate language-learning faculty in the brain referred to as the Language Acquisition Device. As described by McNeill, 'virtually everything that occurs in language acquisition depends on prior knowledge of the basic aspects of sentence structure. The concept of a sentence may be part of man's innate mental capacity' (1970, p.2). Researchers within this tradition, sometimes referred to as 'nativist', were interested in describing the nature of the innate rules of language and the biological functioning of the mind which generated the grammatical competence of the ideal speaker-hearer.

The sequence of acquisition of grammatical structures was explained in terms of their relative complexity: the fewer or simpler the grammatical rules involved in a construction, the easier it is to learn; so simpler constructions precede more complex constructions in acquisition. This explanation, referred to as the Derivational Theory of Complexity, hypothesises that the more complex the rules are for producing a particular structure, then the harder the structure must be for the language learner. Thus, all the grammatical structures of the language could be ranked according to the complexity of rules that specify their derivation (Perera 1984; Lock & Fisher 1984).

A common assumption held until the late 1960's was that the bulk of syntactic structures are acquired between the ages of two and five (e.g. McNeill 1970) and that later development consisted mainly of the addition of a sophisticated lexicon. More recently, however, it was acknowledged that development did continue into later childhood and adolescence in a number of areas, in particular those of phonology, morphology/word classes and syntax.

The most intensive study of language development in later childhood has been in the area of syntax. It was recognised that there were some aspects of English syntax which proved to be more difficult and could only be mastered in adolescence. These formal structural features of language were seen as a crucial index of cognitive maturity. Syntactic complexity was embodied in measures such as the T-unit (i.e. a main clause and all the subordinate clauses attached to it) and it was assumed that having strategies for subordinating clauses and embedding sentences within each other was indicative of greater verbal ability and cognitive skill (Romaine 1984).

Cruttenden (1979) lists the syntactic changes particularly noticeable between five and twelve as:

- an increase in nominal modification (both pre- and post-modification)
- intra-clause co-ordination of adjectives, nouns and predicates
- adverbial clauses and infinitive adverbial expressions like *went out to get some more* (p.119).

Similarly, Menyuk (1977) presents a summary of development of structures from early to later childhood:

- determiner + noun + verb + tense
- conjunction and object expansion
- constraints on presence and the co-occurrence of items
- observations of syntactic rules for conjoining and embedding
- permutations within a simple sentence
- permutations within embedded sentences
- logical constraints on conjoining
- double meanings, metaphoric use of language (p.96)

In particular, following Carol Chomsky's concept of syntactic complexity (Chomsky, C. 1969), the younger child was thought not to be able to handle complex syntactic structures such as the passive voice and relativisation. These features were considered

to be more 'complex' because of the processing and perceptual difficulties they pose for the child's developing cognitive system (Romaine 1984).

The passive was one structure which was considered not to develop fully until adolescence (e.g. Hayhurst 1967, Turner and Rommetveit 1967, Bever 1961, Scholnick and Adams 1973, Baldie 1976). Although children as young as 2 years old have been observed to produce well-formed passives spontaneously, various studies propose that it is not until as late as 13 years that their skills in producing and interpreting the passive are the equal of adults. It is claimed that the use of the passive involves the disruption of the more frequent 'agent-verb-patient' structure, creating a recoverability problem (Romaine 1984).

It is the combination of clauses which has been the major focus of research in later language development (e.g. Gaer 1969, H.D. Brown 1971, Sheldon 1974, Goodluck and Tavakolian 1982). Cruttenden (1979) reports on the decreasing of 'mazes' or tangled sentences as a sign of increasing syntactic maturity. He also cites research by Templin (1957) who found that the occurrence of subordinate clauses increased with age, with eight-year olds using five time as much subordination as three-year olds. Similarly, studies by O'Donnell et al. (1967) found an increase in T-unit length and in the number of clauses within T-units in every year between the ages of five and twelve. From the age of ten the subjects used more subordination in their writing than in their speech. The understanding of most connectives was still developing between the ages of five and twelve, with the conjunction *and* being used most frequently up until twelve.

In her Edinburgh study, Romaine (1984) found a clear progression from the 6 to the 10 year olds, characterised by less reliance on the *ø* strategy in spoken English as the children grew older and a corresponding increase in the use of the *WH* and *that* forms, with *that* being the preferred relativiser.

The late development of relative clauses has been attributed to the processing difficulties caused by their syntactic complexity. Studies have concentrated on various types of relative clauses and have concluded that the order in which these types are acquired is related to their relative ease of processing. In the case of subject-embedded relative clauses, for example, the relative clause is said to interrupt the linear processing of constituents and is therefore acquired later.

Perhaps the most extensive review of recent research into later written language development (including her own significant studies) is that by Perera (1984; 1986). She

states that her main concern is with describing the development of grammatical structure in children's written texts.

Perera (1986) begins by comparing the development of oral and written language, identifying those linguistic features which are more typical of speech than of writing. According to Perera, the most obvious feature of oral language is 'that speakers often get in a muddle', resulting in false starts, reformulations, redundant repetitions and ungrammatical strings. Such 'garbles' rarely occur in children's written texts. Similarly, expressions such as 'well' and 'you know', vague expressions ('and everything', 'or something'), colloquial features ('I saw this film'), tag statements, pleonasms and dialectal intrusions tend not to occur in writing. On the basis of such evidence, Perera concludes that 'generally in their writing children are doing something other than simply recording what they would say' (1986, p.502). (As will become evident later, such an analysis concentrates on relatively superficial differences between speaking and writing and fails to take into account those aspects which reflect the distinctive functional roles played by the oral and written modes.)

Perera then identifies certain structures which are more frequent in writing than in speech. She refers to these structures as indicative of grammatical maturity. The problematic nature of 'maturity' is acknowledged by Perera, who rejects the previously-mentioned Derivational Theory of Complexity on the grounds that it attempts to rank grammatical structures according to their intrinsic complexity. She argues instead that the complexity of the rule doesn't necessarily reflect the difficulty of processing or production for the learner. Rather, she looks at the acquisition sequence of grammatical constructions - easier and more frequent ones will be learnt first. Late and rare structures are seen as indicators of linguistic maturity. This rejection of the Derivational Theory of Complexity is supported by Bell (1981):

> The essential problem involved in grading is to distinguish what is grammatically *simple* from what is psychologically *easy* to learn. The assumption has been that the movement from simple to complex is identical to the movement from easy to difficult. There is little evidence to support this. For example, the sentence *John may have been reading the paper* comes before *John isn't reading the paper*, on the grounds that transformationally, the first sentence is simpler than the second, i.e. it is, essentially, a kernel sentence, while the second contains a transformation and is therefore, by definition, more complex. It seems clear, at least intuitively, that the learner would probably find the 'complex' sentence 'easier' than the 'simple' one, which would, probably, turn out to be rather 'difficult' to learn. (p.57)

In pinpointing indicators of increasing maturity, Perera (1984) lists a number of structural features which various research studies have observed in the writing of children between the ages of seven to eighteen. This list includes:

- greater flexibility in the positioning of adverbials
- a three-fold increase in the use of the passive between eight and twelve
- rapid decline in the use of recapitulatory pronouns and certain errors of concord
- increasingly complex noun phrases (e.g. NP prep NP; appositives)
- increase in the complexity of subject NPs (e.g. expanded NPs)
- increase in the use of perfect tenses, progressive forms, passives and modals
- auxiliary and catenative verb phrases
- errors in tense agreement in successive verb phrases
- errors in modal and tense forms in hypothetical reference
- declining use of compound sentences
- increasing use of complex sentences and a wider variety of clause types
- nominal clauses functioning as subject
- progression in frequency of types of adverbial clauses, from temporal through to reason, condition, place, result, purpose, manner and concession
- the use of non-finite adverbial clauses
- a doubling of the use of certain types of relative clauses between seven and ten
- increasing confidence in the use of cohesive devices

While the above studies concentrated on features which were common to speech and writing, though more frequent in written texts, Perera herself was interested in those constructions which occur almost exclusively in the written mode. Drawing on a corpus consisting of spoken and written data from five previous major studies, Perera found four significant structures which were typical of writing. The figures showed a steady increase in the number of complex subject noun phrases, some types of finite relative clauses, certain alterations in the order of constituents in the clause, and nonfinite and verbless adverbial clauses.

As stated previously, Perera's main interest is in describing language development in terms of aspects of the grammar. In the above study, she does however make passing reference to the relationship between some of the grammatical features and their function. She introduces such notions as thematic continuity, thematic variety, end-

focus, impersonal style, and linking theme and information focus with various grammatical categories available for their realisation. Thus theme is said to be expressed most commonly by 'the subject' and 'most adverbials (except place)', though to achieve certain effects, it may be expressed by 'the object', a 'place adverbial', or a passive construction. Similarly, the function of end-focus can be achieved through the use of the passive, adverbial fronting or clefting. (The notion of Theme and the passive from a systemic perspective will be taken up in Chapter 7 in relation to grammatical metaphor.)

Perera's recognition of a functional dimension is somewhat restricted however. She dismisses the possibility of defining the classes 'verb' and 'noun' in terms of their experiential function because the lay descriptions ('a verb is a doing word' and 'a noun is a naming word') are demonstrably inadequate (pp.22; 41). Rather than introduce more delicacy at the semantic level, she prefers to simply define these elements in terms of their grammatical features. The only systematic semantic category which is acknowledged is that of speech function - all clauses are seen as either statements, questions, commands and exclamations - and structure therefore is described in terms of variations of subject, verb, object, complement, and so on. Here there does appear to be some sort of 'realisational' relationship between what Perera terms 'abstract clause elements' (Halliday's grammatical functions) and 'concrete expressions' (Halliday's grammatical classes):

> Subjects, objects and complements are expressed by **noun phrases**, verbs by **verb phrases**[2], adverbials by **adverbial phrases** and complements also by **adjective phrases**. (p.36)

Perera (1984) also acknowledges the relationship between text and context. In her discussion of development in children's writing, Perera devotes a section to the importance of differentiating between various types of writing. Her contextual categories broadly resemble Halliday's field, tenor and mode. She talks of the organisation of the subject-matter into chronological ('narrative') and non-chronological ('expository'), suggesting that the former is easier to handle and therefore developmentally prior. She then introduces the category of 'the relationship between the writer to his subject matter and to his reader' - conceived of as a continuum from close

[2] In noting the different terms used by different grammars, Perera (1984) states that Halliday, for example, uses 'predicator' where Quirk would use 'verb' (p.9) - as if they were of the same nature. Subsequently (p.47), she comments on the difficulty posed by using virtually the same term - 'verb' and 'verb phrase' - to denote two different 'meanings' - abstract ('function') and concrete ('class') - without appearing to recognise that Halliday's 'predicator' would obviate such dilemmas.

personal writing to distant impersonal writing. This would appear to be a collapsing of Halliday's 'tenor' and 'mode' variables.

Perera does attempt to characterise these categories in terms of indexical grammatical features - a chronological text can be identified by its high use of verbs that describe actions or events and by the fact that sentences which contain such verbs can generally be joined by connectives like *then, next, after that* . The linguistic feature which serves to identify points on the continuum between 'close personal' and 'distant impersonal' is the number and kind of personal pronouns in the text. (Significantly there is no linguistic feature nominated for the expository type of text.)

There is, then, a limited and somewhat unsatisfactory attempt at making the leap from contextual variables to grammatical classes. Curiously, the following section, which outlines grammatical development in children's writing, fails to build on the previous section in terms of linking contextual or semantic factors to grammatical features.

In describing linguistic maturity in writing, Perera (1986) refers to Kroll's series of four phases - preparation, consolidation, differentiation between spoken and written, and integration. In this last phase, only ever attained by a minority of writers, 'speaking and writing are both appropriately differentiated and systematically integrated, so that the mature writer can allow his own tone of voice, personal warmth and so on imbue his written style when he judges it to be appropriate' (p.498). 'Maturity' then appears to be manifested in the writer's ability to introduce stylistic variation in order to project his (*sic*) individuality onto the text. Perera does not elaborate, however, on the grammatical realisation of 'tone of voice' and 'personal warmth'.

While tenuous links are made between semantics, function, context and grammar, these are peripheral to Perera's main concern. This is not to suggest that the work of Perera and her fellow researchers is in any way deficient - they simply have a different focus. Such studies were concerned with syntactic complexity and tended not to take into account semantic complexity, the semantic aspects of language being considered to be not amenable to rigorous scientific analysis. Perera (1984) herself is cautious about the extent to which claims can be made regarding syntactic complexity in later childhood:

> ... judgements about relative grammatical complexity that are derived from language acquisition studies have to be fairly tentative. Knowledge about the later stages of acquisition is slight in comparison with the considerable amount of information that has been accumulated about the first three years.' (p.12)

2.3 STUDIES WITH A 'SEMANTIC' EMPHASIS

In contrast with the psycholinguistic emphasis on grammatical competence and concern with the individual mind, researchers with a sociolinguistic outlook took an interest in the ways in which language was being used by the child in social settings to create meaning and achieve particular goals. While Chomsky emphasised the universal nature of deep structures and the invariance of grammatical competence, the sociolinguists focused on how language varied according to its use in different social contexts.

Many studies dealing with semantics in the area of language development have adopted a 'functional' approach. In its weakest form, 'functions' are equated with 'uses' and the studies deal with the way in which language is used to meet the speaker's needs. Because functional theories came from a tradition outside of linguistics, they have tended to concentrate on text, and have not had much to say about the system underlying text. The functions which they describe tend to be functions of the particular utterance (at the clause/sentence level) or of a stretch of text as a semiotic event (Halliday 1981d).

One such approach was that adopted by Britton *et al.* (1970) who studied language development in adolescence by classifying a corpus of writing by secondary students into three functional categories - expressive ('language close to the self'), transactional ('language for getting things done') and poetic ('an artefact for its own sake'). The expressive was regarded as the fundamental type from which the more advanced transactional and poetic arose. Transactional language was that which emphasised the participant role, whereas in poetic language the writer's role was more that of spectator.

In Britton's view, the child exchanges 'a world of objects' for 'a world of persons' in adolescence. He quotes a six year old, Clare, whose first story was concerned with 'things' - her pony, her house, the pony's shed. At nine, Clare wrote a detailed description of 'things' which she treasured - an ivory elephant, a red velvet pincushion, a measuring tape, a miniature wooden spinning wheel, a brooch, and some tawny velvet. At around the same age, she wrote a natural history essay on the Roski, a cat-like animal. On the eve of her fifteenth birthday, however, she departed from her preoccupation with 'things' to reflect on the personal:

> Fourteen is an age at which one decides to become civilised, and the ancient beautiful, secret, Pictish things have to be given up in favour of a more sociable, sophisticated world where friends and people and laughing are all-important. It is a change from the outdoor world to the indoor. ... When I was younger, I could afford to be, and was, lonely. Now people, and friends, and people such

> as teachers, with whom there is an unnatural sort of relationship, are much more interesting and vital. ... School is 10% learning and 90% being part of the intricate, rarely mentioned and yet, completely understood hierarchy which determines who is whose partner, who sits next to who, etc. ... Friends and people and laughing are all important. (in Britton 1970, p.222)

Britton argues that the adolescent identity is constructed in talk with others (the participant role where they discuss, argue, confess, explore, theorise) and in reflection (the spectator role where they day dream, read and write poetry and fiction and intensify their improvisations on 'the world as I have known it').

In analysing a conversation, Britton (e.g. 1970, pp.237-238) identifies certain utterances as being 'expressive' with the interactants taking on the role of 'spectators' using language to share past experiences, others as being 'transactional' with the interactants taking on the role of 'participants' using language to get things done, and yet others as being 'poetic' with language being used as a verbal object. Britton himself observes that any such analysis is a 'highly tentative business' and he appears to have difficulty assigning different parts of the conversation to particular categories.

Perera (1984) criticises this approach on three grounds:

i) there is no psycholinguistic evidence of a sequence in writing from the expressive to the poetic

ii) there are no linguistic features which serve as identifiers of one type or another, so classification is inevitably a subjective process

iii) the three categories do not reveal anything about the organisational demands that different types of writing make on the writer (p.216).

Hasan & Perrett (1993) also critique such studies on the grounds that they have nothing to say about language as system - they 'bow to the real existence of *parole;* but have no way of relating it to *langue* ' (p.5) This results in an infinite inventory of uses which are external to the language system itself. The source of Britton's analytical problems could be that he has no means of systematically relating the semantic functions to particular linguistic patterns. There is a lack of linguistic criteria to motivate his analysis. Additionally, the analysis does not acknowledge the multi-functional nature of utterances - that any single utterance can have an 'expressive' and a 'transactional' and a 'poetic' function simultaneously.

Another 'semantically-oriented' approach to language development concerns the use of different 'styles' of speech. Gleason (1989), for example, claims that linguistic change

in the adolescent years is found primarily in the acquisition of different 'registers' or 'styles of speech' needed for operating in different social contexts. According to Gleason, special registers are mastered starting in childhood, exploited in adolescence, and refined in adulthood. Adolescence, for example, is characterised by the development of sociolinguistic skills for expressing relative power through language, such as gender-appropriate speech styles, as exemplified by Edelsky's study (1981) regarding the differential employment of mechanisms such as interruption and holding the floor, with males interrupting females more than females interrupting males. Gleason also cites Maltz & Borker's 1982 study of adolescent girls learning to use language in supportive and interactional ways, while boys learn to use language to assert themselves.

Such studies reflect Hymes' notion of 'communicative competence', which was concerned with the learner's socialisation into a particular language-using community. Communicative competence refers to the acquisition of the knowledge as to when to speak, when not, what to talk about to whom, when, where, and in what manner. Language development is conceived of as a widening repertoire of speech acts and a sensitivity to the appropriate use of these in terms of the norms of the community. The acquisition of communicative competence is referred to by Halliday (1978e) as a 'good manners' approach to language development, where learning is interpreted as learning how to behave linguistically is social situations.

> From the sociolinguistic standpoint, learning the mother tongue has been interpreted as the progressive mastery of a 'communicative competence', the use of language in different social contexts. But the notion of communicative competence, though valuable as a temporary structure, a heuristic device for comparative developmental and educational studies, does not relate to the nature of the linguistic system, or explain how and why the child learns it. (Halliday 1975a, p.79)

Again, we find no systematic relationship between communicative competence and grammatical competence. Although some sociolinguists do explicitly include grammatical competence within a model of communicative competence (e.g. Saville-Troike 1982), it is seen simply as another 'component', along with interaction skills and cultural knowledge, rather than as an integral dimension of the linguistic system.

Much of the research in this area looks at the how stylistic variation is related to social class. Romaine (1984) has demonstrated that even school-age children are aware of social class differences in language use, and in adolescence they become more sophisticated in identifying such features and sometimes in switching between different registers for different purposes.

Labov (1970), for example, was interested in the sociolinguistic patterns found in adult speech communities which are acquired during adolescence. He claimed that adolescence was the period when children developed stylistic variation, which could not be clearly identified at the age of ten, but which was fairly well-established by the age of fifteen. Adolescent male groups, for example, tended to employ distinctly non standard language forms as a sign of their group solidarity and black male adolescents were found to engage in competitive slandering through the use of ritual insults. Labov's research in this area concentrated mainly on phonemic and morphological variation in social dialects and how these variables correlated with social class (and were therefore value-laden). According to Halliday (1975b), Labov, however, argued that such variation was marginal with regard to the linguistic system as a whole, and perceived no general principles relating language and language variety to the social order in any sustained and systemic way.

Bernstein, on the other hand, did see a principled relationship between social structure and variation in the syntactic and semantic organisation of language. Whereas Labov concentrated on dialectal variation, which is characterised by reference to formal properties, Bernstein was more interested in register variation, characterised by reference to semantic properties. Halliday (1975b) sees this as an important distinction, with dialects representing different grammatical and phonological expressions of a semantic system and registers representing different semantic configurations. Bernstein's focus was on the semiotic organisation of the social structure and how this governed the choices in meaning made by the speaker (and the interpretations made by the hearer) in certain situation types. Bernstein's notion of code - elaborated and restricted - referred to the way in which certain socialising institutions such as the family are oriented towards particular types of meaning. When the coding orientation of the family is at odds with that of formal education, we might find a pattern of educational failure.

While Bernstein's theories assume a strong correspondence between coding orientation and lexicogrammatical choices, his writings nevertheless do not provide any detailed explication of how this is achieved. According to Stubbs (1986), Bernstein has never made any statement which formulates precisely either how sociolinguistic codes or the concepts concerned with educational transmission (e.g. 'framing') are realised in language.

Corson (1985) professes some sympathy for Bernstein's ideological position, but prefers to talk in terms of 'social group lexes' rather than 'speech codes'. He proposes that

particular categories of vocabulary are more complex than others, particularly specialist lexis of Graeco-Latin origin. His 'lexical bar' theory suggests that the vocabulary of language is a mediating factor in educational success or failure and that facility with the sort of vocabulary required for operating successfully in a secondary school context is related to social class background. In particular, Corson's study examined the use by adolescents of the specialist vocabulary typical of various school subjects in order (a) to determine whether there is differential access to certain types of word by children of different social groups, and (b) to identify the characteristics of 'lexically difficult' words.

Corson cites prior research which analysed lexical use in terms of such factors as quantity of vocabulary, mean syllable length, and variations in form class usage (e.g. the relative frequency of adjectives, adverbs of manner and location, and so on). He concluded that adequate instruments for the qualitative measurement of vocabulary have not been used or developed. Even though some studies attempted to analyse 'higher order' measures of vocabulary, (e.g. distinguishing between 'common' and 'uncommon' or 'concrete' and 'abstract' lexis), these suffered from a lack of formal criteria for identifying such items. Corson (1985) outlines the following lexical attributes that can render specialist words 'difficult in access':

- location on a continuum of 'concrete - abstract'
- the ease with which a word arouses sensory images
- frequency of incidence
- Graeco-Latin etymology
- morphological complexity
- opaqueness (pp.103-110)

Corson's description of the analytical tools used, however, does not make clear the grounds on which certain words were identified as 'specialist'. The notions of complexity, abstractness and specialist terminology are of relevance to the present study and will be revisited in later chapters.

Stubbs (1986) is critical of studies with a 'semantic' orientation which do not anchor their analysis in the grammatical system. He argues that the majority of ethnographic research into children's language tends to rely on selected quotes from a corpus of data as evidence for some educational statement. Borrowing a phrase from J.R. Firth, Stubbs refers to such research as 'loose linguistic sociology without formal accuracy' (p.233). There is no principled way of going from the individual utterances and surface features to a coherent framework of underlying linguistic statements on which to base

interpretations. Stubbs claims that it is not unfair to say that many researchers in the field (including Barnes, Cazden, Delamont, Flanders, Rosen, Sinclair, Torode and himself) have felt justified in picking out, as evidence, any feature of language which appears intuitively to be interesting. He describes such research as eclectic, impressionistic, unprincipled, *ad hoc* and heuristic, ignoring the depth of organization and abstraction of the linguistic system:

> It is no solution to reductionism to make loose references to context and to interpretative procedures, if this ignores the inherent structural and systemic complexity of language. To proceed directly from isolated features of language to social-psychological categories is itself severely reductionist, for it ignores the partly autonomous, complex organization of the language itself. Many levels of organization are simply bypassed. (p.237)

In a similar vein, Halliday (1989b) identifies one of the shortcomings of recent semiotic debate as its reluctance to engage with text and to base the examination of meaning firmly in the grammatics. This reluctance is based on the grounds that an excessive preoccupation with linguistic forms would lead to a sterile formalism. Halliday however claims that to dismiss grammatical analysis is to 'throw away the most powerful tool' at our disposal in coming to an understanding of the meaning of a text.

2.4 SUMMARY

As can be seen from the above review, much research into adolescent language tends to view development in terms of either an increase in structural complexity or an increasing complexity/ sophistication in the child's communicative use of language, depending on the theoretical basis of the research. At times the separation of 'form' and 'meaning' is quite deliberate, while in other cases it is often a matter of having no coherent theoretical framework which enables the systematic relating of these two notions.

In the following chapter, it will be proposed that a stratified systemic model provides such a framework, and that it is precisely the interstratal relationship which helps to explain increasing complexity in the child's linguistic development.

CHAPTER 3

LANGUAGE DEVELOPMENT FROM A SYSTEMIC VIEWPOINT

In this chapter, the findings of studies into early childhood language development within the systemic linguistic tradition will be reviewed. This review will provide a context for discussing later childhood development from a systemic perspective by sketching out the theoretical framework which informs the study, including the development of a stratified linguistic system in early childhood.

The chapter will then move on to language development in later childhood and adolescence from a systemic perspective, contrasting studies in the previous chapter which tended to view later development in terms of increasing syntactic complexity or increasing semantic complexity, with a systemic explanation which sees later development in terms of an increasingly complex relationship between the semantics and the lexicogrammar.

Although the present study is concerned with language development in later childhood and adolescence, it was considered important to firstly review prior studies of early language development undertaken within the framework of systemic functional linguistics. Such a review would serve two purposes: (i) to establish the continuities in language development from early to later childhood from a systemic point of view, and (ii) to provide an overview of those features of systemic theory which will inform the argument and analysis in subsequent chapters.

3.1 EARLY CHILDHOOD

A number of systemic studies have been carried out into the early stages of language development in infants, replicating Michael Halliday's original study (1975a) of his son, Nigel, in terms of data collection and analysis (see Chapter 1). All the studies are long-term case studies by parent-observers and demonstrate a high degree of similarity in the developmental patterns of the infants, though they differ somewhat in terms of the subjects and certain specific findings. This chapter will draw primarily on the work of Halliday (1975a; 1975c; 1978f; 1979c; 1979d; 1980b; 1983b; 1986b) and Painter (1984; 1985; 1989; 1992a).

3.1.1 Phases of early language development

3.1.1.1 Phase 1: Protolanguage

From the moment of birth, the child communicates in the form of vocal or gestural acts such as cries of hunger or reaching for an object. Such an act is only invested with meaning, however, when it is non-random and symbolic, that is, when 'the meaning and success criteria do not reside in its own performance' (Halliday 1978f, p.68). Around the age of six to nine months the child starts to use sounds as meanings in a consistent and systematic way. Halliday refers to this phase as the 'protolanguage'. At this stage, the infant may employ recognisable words from the adult language or may invent his/her own expressions in order to satisfy material and emotional needs. The semantic functions served by these protolinguistic signs have been identified as Instrumental (to obtain material needs), Regulatory (to control the behaviour of others), Interactional (to interact with those around), Personal (to express interests and emotions), Heuristic (to find out about the world), and Imaginative (for pretend play).

Within each of these functions, the child develops a network of options. These can be represented in terms of a system, that is, a range of alternative choices together with an entry condition. Figure 3.1 shows the Interactional function as consisting of a single system when Nigel was around nine months old:

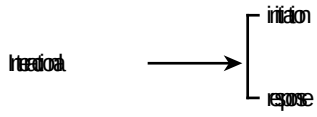

Figure 3.1: System of Interactional options at 9 months (Nigel) (Halliday 1975a, p.148)

By seventeen months, the Interactional function consisted of a number of systems forming a system network:

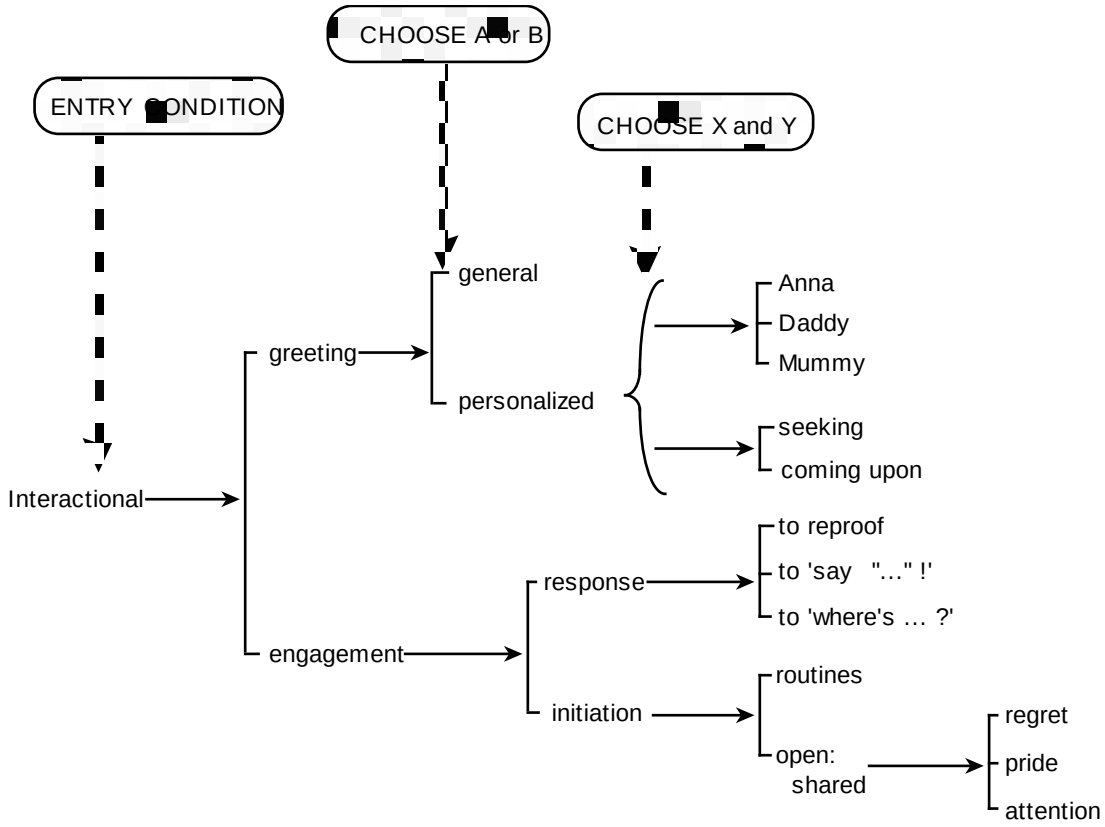

Figure 3.2: System network of Interactional options at around 17 months (Nigel) (Halliday 1975a, p.156)

These networks of meaning constitute a plane of content which is expressed directly by the soundings created by the infant. This primitive bi-stratal linguistic system might be represented as follows:

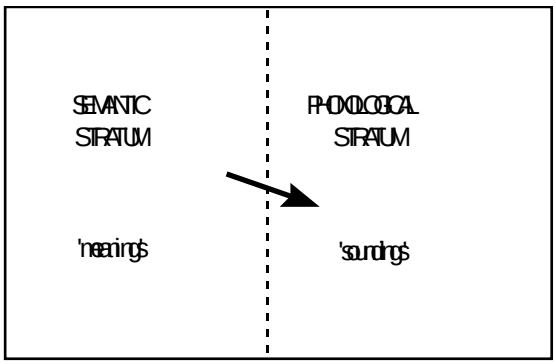

Figure 3.3: The child's bi-stratal linguistic system in the protolinguistic phase

The two-dimensional 'elastic space' created by this process is described by Halliday as being 'rich in semogenic potential', but with distinct limitations. Because of the idiosyncratic nature of many of the signs, it can only be understood by those primary caregivers who have shared the contexts in which it has developed and are able therefore to approximate the child's semantic system. The signs themselves are context-specific, each sign having a single meaning which cannot be transferred to other contexts. The content plane of the sign consists of a fusion of undifferentiated meanings. The sign 't-th' used by Hal, for example, is glossed as meaning 'an animal - ooh how interesting!'. The experiential element ('animal') cannot be separated out from the rest of the utterance to be used on other occasions with a different intent (Painter 1991).

3.1.1.2 Phase 2: Transition

From around seventeen months, the child's protolanguage undergoes a dramatic transformation. In this transition period, the child begins to dispense with the protolanguage and to take on the mother tongue. This phase is characterised by a rapid increase in vocabulary and a differentiation between two generalised modes of meaning.

In the transition, invented expressions begin to be discarded in favour of adult-like vocabulary. The child starts to use mother tongue lexis in exploring various aspects of experience - objects, persons, qualities, actions, locations, and the like. This development enables the child to go beyond the private circle of intimates and engage with the world as construed by the wider community. In using an adult-like lexical item such as 'bird', the child is now generalising about a class of things. The mother tongue lexical item is not tied to any single function or context as is the protolinguistic sign. Hal's first word, 'puss', for example, was used in a number of different contexts to

express interest in the environment, to demand a service, and to recount an event involving the cat.

At the same time as this expansion of lexical resources, Painter and Halliday observed the emergence of two rudimentary speech roles - commenting and demanding. The distinction between the two was typically achieved by the use of different intonation contours - in Hal's case, a falling tone when commenting on something and a level (or sometimes rising) tone when wanting to secure a result. The former tends to be used with self-addressed utterances or when no response is required, while the latter is used in dialogic contexts.

These two changes have significant implications for the child's developing linguistic system and meaning potential. The experiential and interpersonal elements now have an independent existence and can be combined and recombined in innumerable ways. The combination of a lexical item with a falling tone is interpreted as having a 'learning' function (the Mathetic macrofunction), while the combination of a lexical item with a level or rising tone is interpreted as having a 'social' function (the Pragmatic macrofunction).

This development of an explicit opposition between the mathetic and pragmatic modes of meaning brings with it both a continuity and a discontinuity with respect to the protolanguage. The continuity is of a semantic-functional nature inasmuch as the macrofunctions evolve out of the protolinguistic functions. The 'self-oriented' functions (the Interactional and Personal) coalesce into the Mathetic macrofunction, concerned with using language as an instrument of learning to construct a heuristic hypothesis about the world. The 'other-oriented' functions (the Instrumental and Regulatory) coalesce into the Pragmatic macrofunction, concerned with the satisfaction of fundamental needs and desires through social interaction. The child's language thus becomes a resource organised around 'language for reflecting on the world' and 'language for acting upon the world' - two themes which can be traced from the earliest acts of meaning through to the complex configurations of the adult language system.

The discontinuity on the other hand resides in the qualitative change in the linguistic system as it undergoes a process of deconstrual and reconstrual. An abstract level of 'wording' - a lexicogrammar - is interpolated between the semantic and phonological strata of the bi-stratal protolinguistic system. This 'explosion into grammar' results in a new kind of semiotic: the tristratal system of the adult language.

3.1.1.3 Phase 3: Adult linguistic system

Building on the changes in the transition, the child's linguistic system continues to evolve, taking the child into the adult language. On the one hand the lexicogrammatical stratum becomes fully established (see Figure 3.4). While utterances during the transition phase tend to be primarily mathetic or primarily pragmatic, on entry into the mother tongue, this distinction fades and each utterance is plurifunctional, functioning as both reflective and interactive at the same time. This ability to mean two things at once is referred to as 'functional simultaneity'. The intersection of these two modes of meaning creates a multidimensional, highly elastic semantic space (Halliday 1992c) - resulting in the infinite potential and flexibility of the tristratal adult linguistic system:

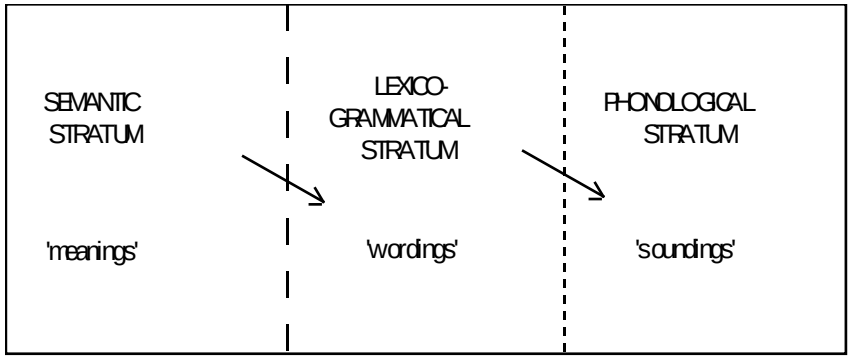

Figure 3.4: The tristratal linguistic system of the adult language

3.1.2 A tristratal model

It might be opportune at this point to elaborate a bit more fully on the nature of the strata and their relationship, given that such an understanding will be central to the notion of grammatical metaphor.

The **semantic** stratum is a resource for meaning. It is seen as an interface between the lexicogrammar and the context, mediating the interaction between the linguistic system and those systems which lie outside of language.

The **lexicogrammatical** stratum is a resource for wording meanings. Halliday sees lexicogrammar (or 'grammar' as it is often abbreviated) as at the heart of the system of

language: 'Grammar ... is the sum total of all the possibilities that a language has for creating meaningful discourse' (1986e, p.5). This stratum includes both lexis and grammar in one unified system, lexis being seen as the most delicate part of the grammar. It is the level of internal organisation of language, the network of relations of linguistic form (Halliday 1974).

The **phonological/ graphological** stratum is a resource for expressing abstract wordings as sound or markings. Phonology includes resources such as intonation, rhythm, syllabic and phonemic articulation. Graphological resources would include the various graphemes, punctuation, layout, and so on. For the purposes of this study, the level of phonology/ graphology will not be considered in any detail.

For any given stratum, the higher one provides the immediate environment - the environment of the phonological stratum is the lexicogrammar, while the environment of the lexicogrammatical stratum is that of semantics. As indicated by the dotted lines in the above diagram, the relationship between the semantic stratum and the lexicogrammar is typically solidary or 'natural'. Between the lexicogrammar and the phonology, however, the relationship is typically conventional - Saussure's 'line of arbitrariness' - though this is a matter of degree.
The boundaries between the semantic and lexicogrammatical strata are seen as fluid and relatively indeterminate - one of the factors contributing towards the difficulty in conceptualising how grammatical metaphor functions at the interface. According to Halliday (1985f), our interests at the time might dictate a Hjelmslevian collapsing of the semantic and lexicogrammatical strata into one content plane, with the term 'semantic' being used as a gloss on the meaningful nature of the linguistic code as a whole (see also Painter 1984). At other times, it may be useful to interpret the semantic system and the lexicogrammar as distinct strata within the system. In terms of explaining the nature and role of grammatical metaphor, Martin believes that it is essential to propose distinct strata in order to model the incongruence between levels (Painter 1984). Similarly, Halliday claims that without the 'semiotic space' created by the lexicogrammar 'we could not have the phenomenon of grammatical metaphor' (1992c, p.25).

Another major organisational feature inherent in the various strata is the **unit**. Units at the level of the semantic stratum are not clearcut, since the concept of semantic structures is not clearcut. In fact, the term 'unit' may not be the most appropriate in relation to the semantic stratum (Halliday 1977d). However, it is possible to identify the basic semantic unit as the text - a dinnertable conversation, a scientific explanation, an exchange of greetings, a novel, and so on. We might then propose smaller semantic

units of various kinds, depending on the nature and length of the text. Such units may take the form of 'stages', 'sequences', 'episodes', 'exchanges', and so on. Those semantic units corresponding in size to the clause are process configurations (ideational meanings), moves (interpersonal meanings) and messages (textual meanings) (Matthiessen, 1992a). These meanings are realised by grammatical units from the stratum below.

Units in the lexicogrammatical stratum are organised hierarchically in terms of a **rank scale**, from the key unit, the clause, through to groups and phrases down to words and the smallest unit, the morpheme. The relationship between units is one of constituency - a unit of a higher rank consists of units from the rank next below and so on. The clause is the highest-ranking unit and is not a constituent of any other unit. Clauses may be combined into clause complexes, but organisation beyond this is taken to be semantic. Clauses thus serve as the 'gate-way' to text (Matthiessen, 1992a). The second-highest ranking grammatical unit is the group or phrase. Whilst they often share similar functional potentials, groups and phrases differ in their organisation. A group - nominal group, verbal group or adverbial group - can be thought of as an 'expanded word', consisting of a Head with a range of possible Modifiers. In contrast, a phrase (i.e. prepositional phrase) is like a 'reduced clause'. The lower-ranking units (words and morphemes) will not enter into this study in any detail.

Similarly, units in the phonological stratum are ranked, descending from the tone group, to the foot, the syllable and down to the phoneme. But again, as mentioned previously, these will not be considered here.

In rounding off this discussion of the strata, we will re-introduce the notion of choice and how each of the strata is organised in terms of system networks of options. While prescriptive grammars and modern formal grammars focus on structure (the syntagmatic organisation of language), systemic functional grammar takes the system (paradigmatic relations) as its fundamental organising principle. Structure is seen as simply one aspect of the linguistic process - an output of choices made from the system.

Systemics then is interested in 'meaning as choice'. As illustrated earlier, these choices are organised in terms of systems - one choice being the entry condition for other choices, ('if a is chosen, then choose x or y') which in turn become the environment for further choices. Thus the systems move from more general meanings to increasingly specific or 'delicate' options. This scale of delicacy allows for the discussion of the grammar in terms of varying degrees of generality, according the need at the time.

The entry condition for a system may be a simple feature or a complex of features originating in various other systems. As these systems become interrelated in this way, they form sets of interlocking options (Halliday 1985a). These are referred to as system networks. The combination of options from the system network taken up in any particular situation is expressed by particular items and structures.

3.1.3 Metafunctional developments

At the same time as the lexicogrammatical stratum is becoming consolidated as an integral part of the linguistic system, the macrofunctions are evolving into the metafunctions of the adult language. In the adult system, the mathetic and pragmatic distinction becomes the organising principle of the abstract metafunctions - the ideational and the interpersonal - and penetrates the newly emerging lexicogrammatical stratum.

The ideational metafunction, in the adult language, is composed of two sub-components: the experiential and the logical. The experiential resources are those which allow for the representation and structuring of the child's experience and interpretation of the phenomena of the world around us and of the world of inner consciousness. The major lexicogrammatical system realising experiential meanings is that of TRANSITIVITY. Here the clause construes a 'theory of human experience', representing processes (actions, happenings, events, states and relations), entities that participate in these processes (persons, animate and inanimate objects, institutions, abstractions) and circumstantial features (extent, location in time and space, cause, manner, and so on (Halliday 1979a).

The logical component of the Ideational metafunction embodies those resources which enable the expression of fundamental logical relations between phenomena. Halliday describes the logical component as representing experience/reality 'indirectly' in the form of abstract relations (1979a). Unlike the structures generated by other functions, logical structures are recursive and always generate complexes (clause complexes, group complexes, etc.).

The interpersonal metafunction is composed of those resources which enable the establishment and maintenance of social relations. While the ideational metafunction acts to represent natural reality, the interpersonal enacts intersubjective reality.

Interpersonal grammar is seen as a principle of social action. Through the lexicogrammatical resources of MOOD, MODALITY, POLARITY and KEY, interpersonal resources express the child's involvement in the speech event, including the social role/s which the child takes up and assigns, and the relationships which accrue in the situation. It is primarily through the interpersonal metafunction that the child intrudes his or her individual self - personal evaluation, attitudes, opinions, and the like.

In the adult language, these two metafunctions are made operational by the development of a third metafunction - the textual. Textual resources, through the systems of THEME and INFORMATION, enable the child to construe the clause as a piece of information, not simply discrete elements of experiential or interpersonal meaning. But more than this, it allows for the building of meaning relationships above and beyond the clause through the systems of COHESION. The textual metafunction is unlike the other two metafunctions in that it creates a semiotic level of reality, enabling the ongoing structuring of meaning as texts which cohere with their environment, both linguistic (that is, previous and ensuing text) and non-linguistic (Halliday, 1975a; 1979a; 1981d).

The development of the textual metafunction enables the child to construct text in the form of dialogue (language as action) or narrative (language as reflection). 'Dialogue' moves beyond the simple exchanges of the protolanguage to the dynamic, extended, open-ended role-playing of the adult language, where each turn depends on previous turns and anticipates subsequent turns. It is through the joint dialogic reconstruction of shared events that the child learns to construct narrative meanings. 'Narrative' refers to the ability to make meanings context-free - 'to bring within the scope of conversation things that lie outside the perceptual field - processes in time past and future, states of consciousness, abstract entities, and other non-deictic aspects of subjective reality' (Halliday 1978f, p.87). It is the introduction of the intermediate level of coding, the lexicogrammar, which makes possible the freeing of meanings from their immediate physical environment. In the words of Halliday, 'with a grammar you can construct reality, without waiting for it to appear' (1991b, p.42). 'Reality', then, becomes primarily a linguistic construction - it exists only in and through language. Language has become a surrogate for experience.

Within each of these metafunctional components, certain options tend to cluster, bound by strong internal constraints. Between metafunctions, however, the constraints are weak. That is, choices made within one component have a great deal of effect on other choices within the same component but hardly any effect on choices in the other components (Halliday 1979a).

At this point, we could say that the child has built up the framework of the multifunctional, multistratal adult linguistic system:

> This system has massive potential; in fact it is open-ended, in that it can create indefinitely many meanings and indefinitely many sentences and clauses and phrases and words for the expression of these meanings. The child will spend the rest of his life exploring the potential of this system; having learnt how to walk, he can now start going places. (Halliday 1975a, p.36)

In order to understand how language develops into later childhood, the following section will flesh out further the nature and functioning of a systemic functional model of language.

3.2 A SYSTEMIC FUNCTIONAL THEORY OF LANGUAGE

As outlined above, those features which distinguish a systemic functional theory of language from others linguistic theories are the fact that it is a tristratal model of language which is metafunctionally organised and based on paradigmatic rather than syntagmatic relations. In order to complete the picture, however, it remains to introduce the notions of context, register and realisation. Both these notions will be critical in our discussion of grammatical metaphor in later childhood.

3.2.1 Context

Up to this point we have been looking at the development of the linguistic system *in vacuo.* But systemics is a theory of language use in context. In order to fully understand how the linguistic system 'works' to make meaning, it will be necessary to bring context into the picture. Halliday (1991a, p.8) represents the relationship between language and context diagrammatically as follows:

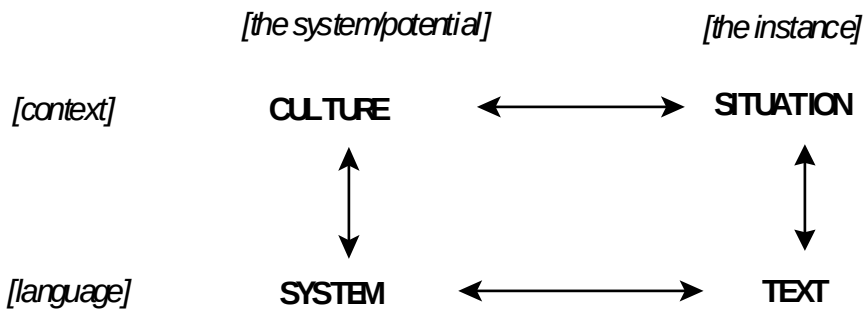

Figure 3.5: The relationship between context and language

When considering context, Halliday, (following Malinowski), distinguishes between the general context of culture and the more specific context of situation. The relationship between these two is one of 'instantiation', where the situation is seen as an instance of the meanings that make up the social system. Halliday likens the relationship between culture and situation to that which holds between climate and weather - they are not two different things but rather the same phenomenon seen from two different points of view - global and local.

Similarly, the relationship between the linguistic system and text is one of instantiation. The system is the potential - the evolved (and evolving) pool of linguistic resources - of which a text is an instance. As each text instantiates the system it 'disturbs the probabilities of the system and hence destroys and recreates it - almost identically, but not quite' (Halliday 1987d, p.7).

Turning to the 'vertical' axis of Halliday's diagram, we have the relationship between the cultural context and the linguistic system. The sorts of meanings realised in language will be a function of the socio-historical and ideological environment within which those meanings have evolved - the ways of behaving, perceiving, valuing, interacting, and so on, which distinguish one culture from another. A culture can be seen as a semiotic construct, with language as the primary semiotic system. Language is both shaped by the culture within which it evolves and acts in turn to shape the culture. In this sense, language and culture are co-determinable, with use 'becoming' system and system 'supporting' use (Hasan & Perrett 1994). In order to explain language, then, it needs to be understood within the context of a particular culture. The phenomenon of grammatical metaphor, for instance, is explained by Halliday in terms of its evolution in a culture which is literate and which values expository, scientific ways of reasoning.

Just as the linguistic system needs to be understood within its cultural context, so any particular instance of language (or text), needs to be seen within the context of situation in which it was produced and interpreted. Again, as will be argued later, the situational contexts with which the child engages have implications for the development of grammatical metaphor.

To this point we have been dealing with relatively broad notions. The question of what processes are involved in moving from context to text will require a much more detailed look at the linguistic system and how it relates to the social context.

3.2.2 Register

According to Halliday, certain features of the social context will act to determine the sorts of choices we make from the linguistic system. Halliday (1985f) describes these in terms of 'a configuration of semiotic processes' (p.7):

> - the **field** - 'the social action: that which is 'going on', and has recognisable meaning in the social system; typically a complex of acts in some ordered configuration, and in which the text is playing some part; and including 'subject-matter' as one special aspect.' (Halliday 1977d, p.201)
>
> - the **tenor** - 'the role structure: the cluster of socially meaningful participant relationships; both permanent attributes of the participants and role relationships that are specific to the situation; including the speech roles, those that come into being through the exchange of verbal meanings.' (ibid)
>
> - the **mode** - 'the symbolic organisation: the particular status that is assigned to the text within the situation; its function in relation to the social action and the role structure; including the channel or medium, and the rhetorical mode.' (ibid)

These categories come together under certain conditions of usage to generate the **register** of a text - that is, the meaning potential that is characteristic of a generic situation type (Halliday 1978d; 1978b). The register acts to determine the choices made from the linguistic system - those sets of meanings activated by the semiotic properties of a given social context (Halliday 1975a).

The register, then, is seen as the interface between the social context and the linguistic system. Halliday (1977d) hypothesises a correspondence between the categories of context (the field, tenor and mode) and the metafunctional resources of the linguistic system, whereby the field is reflected in the Ideational resources, the tenor relations in the Interpersonal resources, and the mode in the Textual resources. In other words, each contextual variable tends to determine the selection of options within the corresponding component of the semantics.

3.2.3 Context and Language Development

As discussed above, a systemic model of language recognises the intimate relationship between context and language. Context is seen in terms of 'context of situation' and 'context of culture'. Both of these contextual perspectives are implicated in the language learning process in terms of placing demands on the learner and in terms of facilitating the learning process.

(i) Learning and the context of situation

It is from the myriad 'microsemiotic exchanges' in specific contexts of family and peer group life that the child's understanding and use of language arise (Halliday 1975a; 1978c). The immediate contexts in which the child participates are constantly providing linguistic challenges for the developing child. He/she needs to gain control over an ever-expanding range of domains - from the intimate and domestic to the exploratory and foreign. In each new domain, the child is confronted with new phenomena which need to be named in order to share the experience, with new connections between phenomena which extend and modify the child's developing taxonomies, with enriched understandings of how phenomena 'work', with new social roles to take on and assign to others, with new relationships as the child extends his/her meaning group, and with new insights into the nature and function of text. The cycle of challenges - new developments which in turn enable responses to new challenges - generates its own learning momentum.

But while the context is challenging the child, it is also supporting the child's efforts. In response to Chomsky's argument that we need to postulate an innate 'language acquisition device' in order to explain the fact that children are able to learn to speak even when surrounded by 'degenerate models', Halliday (1975b) suggests that it is not necessary to assume such a mechanism. He claims that, in fact, caregivers provide

models of richly structured and highly grammatical language use. Moreover, the meanings which surround the child are highly contextualised - 'they relate to their environment, and are interpreted in relation to their environment - to the context of situation, in other words. The situation is the medium in which text lives and breathes' (Halliday 1975a, p.125).

In the early stages, much of what a child hears is related to observable features of the environment, allowing the child to make ready connections between what is said and the significance of the utterance (Halliday 1978a). The context of situation, however, is not seen simply in terms of the objects and events of the external world - the 'props' and conditions surrounding the on-going activity (Halliday 1975a). Rather, it is a configuration of semiotic patterns concerned with the field of activity, the negotiation of roles and relationships, and the channel of communication. As discussed previously, these contextual variables are systematically linked to the metafunctional components of the adult language system. There is thus a natural relationship between the child's communicative experience and the language system itself. The grammatical structural configurations derived from the metafunctions are iconic. In Halliday's view, this makes them easy to learn:

> ... they are accessible to a child because he can match the configuration of elements of grammatical structure with some possible interpretation of the phenomena the structure refers to. (1991b, p.35)

The child learns language as a system of meanings by engaging with texts in functional contexts (Halliday 1975a). It is through the deconstruction of these instances of language experienced in numerous contexts of situation that the child learns to construe the system (Halliday 1986c). The language system, however, needs to be seen in relation to the context of culture within which it has evolved to serve particular functions. The next section, then, will look at how the context of culture is implicated in the learning of language.

(ii) Learning and the context of culture

Language is the primary medium of socialisation (Halliday 1978a; 1987a). Given a realisational model of language, in the process of learning language one is by implication learning systems of meanings - a semantic system together with its realisations (Halliday 1975a). Each instance of text will reveal something of the underlying social semiotic. As the child engages with these instances, he/she will be re-creating the social system. In internalising the structure of language, then, the child is

also internalising a particular 'reality' as part of the same process (Hasan & Perrett 1994; Painter 1991; Halliday 1975a). In the words of Painter (1991, p.44), developing language necessarily means developing simultaneously as a member of a cultural group.

> In principle, a child is learning one semiotic system, the culture, and simultaneously he is learning the means of learning it - a second semiotic system, the language, in which the first is encoded. (Halliday 1975a, p.122)

Learning language is interpreted in systemic linguistics as the 'progressive mastery of a functional potential' (Halliday 1975a, p.5). As the child learns language, he/she is developing a social semantics - a meaning potential related to a particular set of primary social functions (Halliday 1974). These primary social functions are concerned with those linguistic resources which have evolved in order to meet the learning challenges in specific contexts of situation, that is, to represent our experience of the world (the ideational metafunction), to enact social processes (the interpersonal metafunction), and to construct relevant texts (the textual metafunction). The child therefore experiences no discontinuity in taking over the metafunctionally organised language system of his/her culture.

All three metafunctions play an integral part in learning:

> The grammar opens the way to naming and reference, and hence can function as a theory of human experience. It allows for an ongoing exchange of roles between speaker and listener, and hence can function as the enactment of human relationships. It makes it possible to create discourse (text that is operational in its environment), and hence brings into being the commodity we call 'information'. It opens up a universe of meaning, a multidimensional semantic space which can be indefinitely expanded and projected. In other words, the grammar brings into being a semiotic that has unlimited potential for learning with. (Halliday 1992c, p.4)

3.3 HOW CHILDREN LEARN LANGUAGE: A SYSTEMIC PERSPECTIVE

3.3.1 Language development as an intersubjective process

While learning language can be seen as a social process in terms of **what** is being learned, it can also be seen more locally as a social process in terms of **how** it is learned.

Halliday asserts that much of recent learning theory is permeated by a progressive ideology of romantic individualism, where the child is represented as a freestanding, autonomous being whose latent capacity will, with nurturing, be brought into bloom. This view has been supported by Chomskyan innatism and cognitive theories which interpret learning as the acquisition of readymade information by some kind of independent processing device. Halliday (1994a) contrasts these 'asocial' approaches with those which view all construction of meaning as a social process. In contrast with the cognitivist preoccupation with the individual, systemics emphasises the intersubjective nature of learning, with interactants being seen as subjects whose self is created and defined in the continuing exchange of meanings.

Halliday makes a distinction between an intra-organism perspective to learning, where the internal make-up of the individual's brain structure and cerebral processes is under investigation, and an inter-organism perspective, where the child negotiates meanings in interaction with his or her 'meaning group' (1978a; 1975a). While not discounting the intra-organism perspective, Halliday believes that it tends to ignore or marginalise the role of the environment and 'other active organisms' in the codetermination of the child's development (1977b).

> Language arises in the life of the individual through an ongoing exchange of meanings with significant others. A child creates, first his child tongue, then his mother tongue, in interaction with that little coterie of people who constitute his meaning group. In this sense, language is a product of the social process. (Halliday 1978b, p.1)

Unlike the mainstream cognitive model of learning, systemic theory sees language processing as a collaborative effort - interactants are partners in the accessing and constructing of meanings:

> If experience is interpreted as meaning, its construal becomes an act of collaboration, sometimes conflict, and always of negotiation. (Halliday & Matthiessen (in press) p. 2)

Just as the child is predisposed at birth to learn (Halliday 1992c), adults appear to be predisposed to teach. In most cases, such 'teaching' is achieved not by explicit metalinguistic explanation, but by 'making the potential visible in text' (Painter 1993, p.23). Much of what the child hears will be incidental as the members of his or her meaning group go about the business of everyday life. Social reality is learned indirectly through the accumulated experience of numerous small events (Halliday 1978a).

The child is surrounded by sustained modelling of language in use in a variety of contexts. Older language users unconsciously make visible to the child the functions and forms of language.

> All children are provided with highly contextualised models of language in use in such a way that salient features of their mother tongue can become visible to them. Such features include both the purposes language may serve in their lives and the phonological, lexical, grammatical and discourse structures that may actualise those purposes. Older language-users interact with younger ones in such a way as to make the forms of language more accessible and to provide contexts for the child to participate in particular kinds of discourse. And they also provide feedback to the child on his or her success in making meaning. (Painter 1991, p.60)

At certain points, the child will choose to engage in this on-going linguistic enterprise, or the adult will attempt to engage the child at a level which he or she can manage (Painter 1985). The primary caregivers, because they have shared the contexts of growth of the child's meaning system and unconsciously tracked its progress, are able to gauge what the child is capable of comprehending, and more importantly, what would constitute a reasonable challenge for the child.

In the course of the interaction, the caregiver will employ such strategies as supplying the child with appropriate words or 'chunks', elaborating on these chunks, extending the child's offerings in various ways, prompting and guiding by asking questions, jointly reconstructing shared experiences, and the like. Because such modelling is usually based on the child's initial attempt at meaning, the child is likely to be more receptive to the adult's intervention. Through this guided interaction, the adult is providing a 'scaffold' which will be gradually withdrawn as the child becomes more competent in that area (Bruner 1978; 1986).

3.3.2 Language development and learner strategies

It is not only caregivers however, who employ a range of strategies in the language learning process. The learner, too, will develop various strategies to facilitate learning:

> For the child, the overall context is one of survival, and he develops semiotic strategies such that he can use his meaning potential as he is building it and build it as he is using it. (Halliday 1975a, p.135)

Turning from the more social aspects of a language-based theory of learning, the following section will elaborate on Halliday's description of strategies the child as an active agent brings into play in the development of the linguistic system as a resource for meaning and learning.

• Moving into new domains

The child will venture into new semantic domains when confronted with new contextual demands, both interpersonal and ideational.

• Refining distinctions

The child constantly elaborates the system networks by refining distinctions that have already been made and developing increasingly delicate options, both in terms of the grammar (e.g. moving from a 'yes/no' option in MODALITY to shades of grey - 'maybe', 'might') and the lexis ('go' > 'walk', 'run', 'climb').

• Deconstructing linked variables

The system is in a constant state of construction, deconstruction and reconstruction as each new perturbation leads the child to make new connections, often forcing the adjustment or relinquishing of previous 'frames'. The strategy of 'disassociating associated variables' refers to the deconstruction of an already-formed opposition (AX/BY) and a recombination into two independent oppositions (A/B and X/Y). The opposition between 'hot coffee' and 'iced tea', for example, may be recombined into 'iced coffee' and 'hot tea'. Halliday (1992c) describes this as 'a simple but extremely powerful operation, one that is fundamental to all aspects of human learning' (p. 9).

In addition to these three basic strategies, Halliday suggests a number of other moves made by the child in the further development of the system:

• 'Filtering'

Another strategy employed by the learner in constructing the linguistic system is that of 'filtering'. Because the child cannot learn the whole adult language system at once, he or she tends to concentrate selectively on those aspects which are within their current semiotic potential, or perhaps slightly beyond that which they are currently able to process:

> The learning energy is being concentrated on points that will yield - which are so to speak available to be transferred from the unknown to the known, and can therefore increase the resources for subsequent learning. (Halliday 1992c, p.12)

This ability to recognise and work on a reasonable challenge - similar to Vygotsky's zone of proximal development - accounts for language growth. Halliday surmises that the child's functional system serves as a grid, acting selectively as a 'semantic resonator' on the linguistic input available to the child, filtering out those instances which are not do not 'resonate at its own functional frequencies' and capturing those aspects of the input which can be productively accommodated within the system. Anything which is well beyond the child's current semiotic frontier will remain unattended to until the system has developed further (Halliday 1975a; 1975b; 1986c; 1992c).

• 'Trailer' strategy

Every so often, though, the child will venture into a new area which is beyond his or her current level of ability. This is when the child anticipates a developmental step to come, then 'steps back' in order to consolidate the step and build it into the overall learning process. While often referred to as 'flukes', these incursions into the unfamiliar are of a more consistent nature and appear to be part of the process of building a semiotic system (Halliday, 1992c).

• 'Magic gateway' strategy

Having glimpsed the unexplored terrain, the child now needs to find a route by which to pass - 'a way in' to a new understanding. Halliday describes this strategy as complementary to the 'trailer' strategy. As examples, Halliday (1992c) proposes the use of the iconic sign as a gateway between non-symbolic and symbolic modes of action and the tendency to use the interpersonal gateway in developing new experiential meanings.

• Regression and reconstruction

In the light of new experience of the world, the child might regress - backing off to an earlier semiotic 'moment', while reconstruing both content and expression. Halliday (1992c; 1986c) gives the example of children reinterpreting their experience in the new mode of written language. While they might be quite adept at discussing some semantically complex area of experience orally in commonsense terms, in writing about that same area, they will regress to an earlier level, while they reconstruct their linguistic system to cope with the demands of knowledge being construed in systematic, educational terms.

• Repetition

Even the humble strategy of repetition is acknowledged by Halliday to be a semogenic factor. This is not to suggest that Halliday would concur with a behaviourist approach in terms of drilling as a means of committing to memory. Rather, the repetition of 'chunks' of language allows the child to 'model the language as a probabilistic system' (1988a, p.13). Each instance of language serves as evidence for construing the system that lies behind. Learning any system involves 'learning the relative probabilities of its options, thus building up a quantitative profile of the whole' (Halliday 1992c, p.12). In recognising those options which occur more frequently, the child is able to sequence the learning of grammar.

• 'Chunking'

In addition to revealing the probabilities of the system, the learning of large stretches of 'wording' as uninterrupted wholes plays an important part in language development. Halliday (1977d; 1978c) points out that much of what we say as adults is stored in ready-coded form as 'lines' - not all of our utterances are freshly processed every time. In language learning, familiarity with these chunks of text allows the child to experience 'text grammar' - the patterns of cohesion characteristic of adult texts.

3.3.3 Language development and system/instance dialectic

We have seen how language develops through social processes and through learner strategies. There is another factor, however, which contributes to the development of the child's meaning potential - the language system itself and the dialectic which is set up between the system and the instance.

Following Lemke, Halliday (1994a) describes language as a 'dynamic open system' which is metastable in character. Such systems persist only through constantly changing in interaction with the environment. The system is the potential for generating new instances, and the instances produced in each unique environment make incursions back into the system, creating minute 'ripples' and maintaining the system in a constant state of evolution.

From a phylogenetic perspective, the English language as system has evolved over the millennia as a result of innumerable such perturbations. Ontogenetically, the same

processes lead to the growth of the child's meaning potential.[1] As the child engages in particular contexts of situation, certain demands are made upon his or her linguistic resources. The child's language develops in response to the current challenge. On the basis of these encounters, the child constructs transitional micro-paradigms which are specific to the contexts of situation in which he or she is engaging (Halliday 1975a). With each new change in context, the child may need to renovate these micro-paradigms by processes of addition, modification or complete reconstruction. Painter (1992a) lists the various ways through which the child's linguistic system may be elaborated as:

- new options for meaning
- new grammatical realisations of existing options
- new configurations of options, or
- new contextual deployment of existing options (p.29).

The expansion of the child's meaning potential, then, is not simply a matter of constantly adding new options to existing sub-systems, but rather involves the constant reconstrual of the system in the light of new linguistic experiences.

In the first couple of years of life, then, the child is building up the language system in terms of strata, rank, and metafunction. By around two and a half, the child has developed the framework of the adult language system (Halliday 1978a). For the next several years the system will be expanded by means of the elaboration of existing elements and the extension of networks through the addition of new options.

Painter (1992a) points out that developments within the child's meaning potential enable new ways of thinking and learning, and that in the course of using the enriched language system, the learner may be alerted to new possibilities for meaning. Language development is thus seen as a series of implication sequences - certain options need to be available within the system before further developments can take place.

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[1] Halliday warns against the temptation to see phylogenetic and ontogenetic development as completely analogous - the individual child may, up to a certain point, recapitulate the history of the semantic system as he moves through primary, middle and tertiary education, but this pattern of change is one of growth, not one of evolution (1990b):

> We cannot know for certain that ontogeny reflects phylogeny. All we can say is that when we examine how a child learns the linguistic system from the functional standpoint, we get a picture which *could* be a picture of how human language evolved. (1974, p.100)

Having sketched out the basic features of a systemic model of language and a sociosemantic theory of learning, we will now move on to consider developmental factors as the child moves into later childhood and adolescence.

3.4 LATER CHILDHOOD AND ADOLESCENCE

3.4.1 Contextual influences on later language development

Just as in earlier childhood, language development in later childhood and adolescence is dependent on the contexts - cultural and situational - in which the child grows up. This section will outline certain situational contexts which have been identified as significant for the kind of language development necessary in later childhood to meet the demands of a literate, technological culture.

The majority of research studies into language use in later childhood and adolescence within the functional systemic tradition have been of an 'applied' nature and not concerned with language development *per se* .[2]

Most of the work in this area has arisen from studies by Martin and Rothery (1980, 1981), Christie (1979, 1983, 1985, 1987, 1990) and colleagues. The learning theory and ideology informing these studies derive from the work of such scholars as Vygotsky, Bruner, Luria, Wertsch, Bernstein and Halliday. Development is not viewed simply as an 'on-schedule' unfolding of a biogenetically controlled programme in the individual but is interpreted as a 'sociogenetic phenomenon, in which interaction plays a decisive role' (Hasan & Perrett 1994, p.3). Rejecting attempts to trace the development of a 'natural' sequence of linguistic structures in later childhood, such studies have concentrated on how the cultural and pedagogical contexts impinge upon the language development of the child and determine what is learnt and how. Their motivation has been the empowerment of students whose cultural background does not 'fit' with the values of the school, initially through enabling them to succeed within the parameters set by the school and ultimately to challenge those parameters. They have been

[2] An exception is the study of the narratives of 6 and 10 year olds by Collins (1993) which suggested that 'the later years see a number of developments at the discourse level, including an increased sensitivity to the role of topic-selection in developing the shape of the text and to the broader structural requirements of different genres'. (p.24)

concerned primarily with identifying genres which are highly valued in the educational institutions of Western cultures, elaborating their generic structures and characteristic linguistic features, and developing appropriate pedagogies in order that teachers might intervene in an informed way.

In later childhood the factors outlined in the earlier sections of this chapter will continue to play a role in the language development and learning processes of the child. As the child is provided with a greater range of contextual challenges, however, the nature of these factors will change somewhat. According to Halliday (1991b), children will meet three new demands on their meaning potential in the course of schooling:

> i) a new medium, or 'expression set', that of writing
>
> ii) a new mode, or 'content set', that of abstraction and grammatical metaphor; and
>
> iii) a new rhetoric, or 'discourse set', that of the technical and disciplinary organisation of knowledge (p.149).

The following section will examine how these (and other) contextual demands lead to developments in the language system as the child moves from home to school and later from primary to secondary school. As each contextual variable is discussed, reference will be made to the relevant linguistic features associated with that variable, including grammatical metaphor:

> The more we raise questions about register-type variation in language, the more we find ourselves having to take account of metaphorical processes in the grammar, because (as we have seen to be the case with speech and writing) different functional varieties of language differ mainly in their patterns of wording, and the extent and kind of metaphor employed is one of the significant dimensions of variation. (Halliday 1985a, p.332)

3.4.1.1 Tenor and Interpersonal developments

With the move to school the child will be expected to learn new roles and new ways of relating to others. The familiar roles of child, sibling, neighbour are complemented by those of pupil, member of class and peer-group, and so on. No longer can the child expect the undivided attention of adults or the comfortable routines of the household. No longer the primary focus of attention, the child must learn appropriate interaction patterns within much larger, more formal groupings. Behaviours such as raising the hand to ask a question, not making direct demands, taking part responsibly in group

discussions, and the like, need to be learnt. New relationships have to be negotiated as the child learns the nature of student and teacher roles, makes new friendships (and encounters prejudice and antipathy), interacts with a wider range of adults such as the canteen personnel and the school principal, and generally extends the scope of his or her participation in the world.

The transition to secondary school brings a fresh round of interpersonal challenges and the student must learn to handle changing relationships in terms of such factors as status, power, contact and affect. The student no longer enjoys a sustained, relatively informal relationship with the one teacher, but is faced with a daily succession of subject teachers who must deal regularly with several scores of students. The easygoing chatter of the primary classroom is replaced by formal, structured classroom interaction. The onset of puberty changes the nature of peer group relations - from feigned indifference and even hostility towards the opposite sex to tentative overtures of interest. Outside of school the adolescent must participate in unfamiliar situations involving interaction with strangers such as independent shopping, arranging outings, attending club meetings, and participating in work experience.

All of these unfamiliar experiences require the adolescent to learn new interaction patterns through the development of corresponding interpersonal grammatical resources in areas such as modality, mood, vocatives, person, key and attitudinal lexis. Wright (1992), for example, documents the subtle use of personal pronouns in the way that secondary teachers position themselves vis-à-vis the students in terms of solidarity and exclusion, and the ways in which modal adjuncts and modal verbs contribute towards the construction of tentativity and marginality in relation to instructional discourse.

One of the more significant interpersonal resources to develop in adolescence is that of grammatical metaphor. It is interpersonal metaphor which allows for the slippage, ambiguity, and subtlety of argument which characterise (much) adult discourse. Matthiessen (1992a) contends that, in relation to mood options, grammatical metaphor extends the speaker's repertoire by multiplying the variety of dialogic roles:

> Through interpersonal metaphor, the grammar and semantics create a semiotic space for enacting statements, offers, questions and commands in numerous ways and this metaphorically expanded space makes it possible to define numerous different personalities within one person - options in meaning that differ systematically from one another. (p.40)

The resources of interpersonal metaphor contribute to the individual becoming a personality, a role complex, with the facility of positioning the self and others in culturally valued ways (Matthiessen 1992a).

3.4.1.2 Field and Ideational developments

In the first few years the ideational meanings with which the child engages will be of a 'commonsense' nature, engendered in the process of everyday dialogue. The language of educational knowledge however is of an increasingly 'uncommonsense' kind. The institution of schooling exists to initiate children into more consciously designed, systematised and explicit ways of reasoning about the world.

Halliday (1991a) highlights this distinction by differentiating between learning and education:

> ... all education takes place through the medium of language. I don't mean all **learning**: human beings learn a great deal without the medium of language. But all **educational** learning is mediated through language ... Language is implicated in some way or other in all educational activity ... (p.1)

'Becoming educated', then, is a linguistic process. Language is seen as 'the essential condition of knowing, the process by which experience becomes knowledge' (Halliday 1992c, p.2). Knowledge is thus 'simply a higher level of meaning, still linked to the grammar by the chain of metaredundancies' (Halliday 1987a, p.140). In order to become educated, the learner must develop control over the language of educational knowledge.

In the early years of schooling, there is no dramatic discontinuity between the commonsense knowledge of the home and the type of knowledge being developed in the classroom. The curriculum seldom introduces unfamiliar fields in the first couple of years as the children are coming to grips with new interpersonal and textual skills. Furthermore, the pre-school child has already developed a sophisticated array of semantic strategies in making sense of the world. It is not as if the school needs to 'teach' children to compare, contrast, classify, and so on. In terms of 'field', then, the role of the school at this stage appears to be the consolidation, formalising and systematising of this commonsense knowledge - bringing the familiar to consciousness as an object of explicit investigation.

As the child progresses through school, however, one of the major preoccupations will be the mastering of new fields of knowledge. In middle childhood these fields remain relatively integrated, but in the later years they become increasingly discrete and technical, culminating in the specialist disciplines of the secondary school. From a systemic linguistic point of view, educational knowledge is 'technical' knowledge - a particular way of understanding the world which is valued in certain cultures. While the language of the various disciplines is most apparent in the subject-specific 'technical terms' they employ, it is not these words as isolates which characterise the register, but the syndrome of specialised lexicogrammatical patterns which have evolved to organise the sorts of meanings which are particular to that discipline. In learning these technical registers, students are being initiated into new forms of knowledge and new ways of thinking about the world (Halliday 1991b).

One aspect of these technical registers is the phenomenon of grammatical metaphor. Halliday sees grammatical metaphor as the secret code which students must break if they are to succeed in secondary school since the technical language of all school subjects make extensive use of this metaphorical potential of the grammar. The effect of grammatical metaphor is to construe the world in highly abstract and technical ways. In the words of Halliday (1990b),

> The reality construed by this form of discourse became increasingly arcane and remote from the commonsense construction of experience as embodied in the spoken language of everyday life. (p.19)

As a consequence, Halliday sees the school's linguistic construction of knowledge, mediated to a great extent by grammatical metaphor, as contributing to the fact that a certain proportion of pupils in upper primary school find themselves at risk (1991b).

Matthiessen (1992c) conjectures that the theory of experience construed by the ideational metafunction is one which has 'sensing' as its central category. The 'centre of the ideational universe' are the mental processes of perception, cognition, reaction and volition. In the technical discourse of secondary school, however, processes of sensing are reinterpreted metaphorically as things. The universe is arrested in order to render it accessible to analysis. The consequence of this reification are that (i) the Sensers are metaphorised out of the discourse; and (ii) the discourse tends to employ relational and to some extent material processes, but not the mental processes concerned with processes of semiosis. This in turn leads to an emphasis on knowledge as the acquisition of 'facts', rather than information as meaning.

This study will build on those of Painter, Phillips, and Halliday by describing how the commonsense 'theory of experience' developed in the grammar of early childhood changes under the impact of education into a highly technical, abstract, metaphorised interpretation of the world.

3.4.1.3 Mode and Textual developments

The most significant feature of the transition from home to school is the move into the written mode. As mentioned above, pre-school learning is mediated by spoken language. Understanding of the world is developed implicitly in the give-and-take of everyday conversation (Halliday 1986d).

This mode of learning persists throughout schooling. It provides a particularly effective context for certain kinds of learning. Exploratory learning in particular is facilitated by the nature of oral interaction, where the learner is able to float tentative ideas, receive immediate feedback, reformulate on the run, make connections from multiple inputs, challenge and be challenged, ask questions, seek clarification, initiate and change topics, and so on. Through this face-to-face contact the interlocutors are able to finetune their interaction to best accommodate their mutual needs.

Learning in school, however, is heavily dependent on the written mode. Upon entry to school the major undertaking is the formal initiation into reading and writing. The primary motivation behind the institution of schooling is in fact the teaching of literacy (Painter 1991; Halliday 1991b). Education traditionally begins at an age where children are able to handle abstract concepts (Halliday 1986c). This ability to understand abstract forms of meaning is necessary in order to come to grips with written text - itself a highly abstract object (Halliday 1986b).

While spoken language might be described as fleeting, ephemeral and volatile, written text becomes a 'thing' - a substantive, bounded object available to conscious scrutiny. Whereas learning to speak is an incidental, pervasive and largely implicit process, learning to write requires conscious, deliberate and explicit attention. In the early years of schooling the child learns not only the 'mechanics' of handwriting, but the relationship between the written and spoken word - the fact that language can be 'trapped on paper'.

In spoken language the pre-school child has already started to use language as a substitute for actual experience providing information about unshared events. Anecdotes of prior experience, at first usually scaffolded by an older participant in that experience, are recounted for the benefit of someone who was not present. This use of language to reconstruct experience provides the basis for the move into the written mode, which assumes no face-to-face contact with the reader and is not tied to the immediate scenario. The writer learns to construct texts which are self-sufficient and self-explanatory. Progressing through school, the child learns to recognise and use those grammatical resources which make a text cohesive within itself - resources such as reference, substitution, ellipsis, conjunction, and lexical cohesion.

Increasingly, the student must also come to an awareness of the needs of the distant, generalised reader. Without the benefit of oral intonation patterns, the writer learns to signal the method of development of the written text through the use of thematic resources. And without the possibility of clarification requests provided by the oral mode, the writer also learns to anticipate what questions the reader might expect to be answered and what shared knowledge the reader might possess - what can be taken for granted and therefore backgrounded as 'given', and what might constitute 'new' information and therefore assume the prominent end position in the clause.

In structuring the information flow of the text, the adolescent writer must learn to draw on the resources provided by grammatical metaphor. Experiential metaphors are brought into the service of the textual metafunction as a method of packaging information in ways which are compact, efficient, and most importantly, which enable the logical flow of the text.

In secondary school, then, the student must learn to access and produce written texts which are coherent, relatively dense, free-standing and abstract. Such texts will require the control of grammatical resources in the areas of cohesion, Theme/ Rheme, and grammatical metaphor.

In summary, in the period from early childhood to later childhood and adolescence, we might expect to find developments in the systems of the interpersonal metafunction (mood, modality, person, polarity, key, vocatives, and so on) in response to changing tenor relationships and the need to constantly redefine one's subjectivity in the light of these; developments in the systems of the ideational metafunction (transitivity, logical relations, lexical relations, and so on) in response to changing pressures to construe the world in more technical and abstract ways and to reason in more systematised ways

about how it works; and developments in the systems of the textual metafunction (cohesion, theme, voice, deixis, collocation, and so on) in response to the demands of the monologic written mode. In all three metafunctions, grammatical metaphor assumes an increasing importance as the child nears adolescence.

As noted above, the often highly metaphorical language encountered in secondary education is increasingly removed from the language of everyday experience. Halliday (1990b) describes such language as often elitist, contrived, rigid, determinate, and abstruse, and cautions that 'children are likely to have problems if faced with and expected to learn from highly metaphorical texts at a stage where they are not yet really in control of this kind of language' (1986c, p.23). Halliday (1986c) sees the task of the primary school as ensuring that students have sufficient control over the written mode such that secondary teachers can take it for granted and draw on it in learning the language of the disciplines. In reality, however, students moving into secondary school are generally ill-prepared for dealing with such texts and can find them alienating. The implications for teaching practices as students encounter the metaphorical language characteristic of secondary education are outlined by Martin (1993b):

> ... it appears that in general terms the institutional boundary between primary and secondary school symbolises the ontogenesis of grammatical metaphor in students' language development; and discipline specific secondary school discourses depend on abstract metaphorical text to be construed. This makes apprenticeship into written abstraction a fundamental rite of passage in junior secondary school. Devising ways of facilitating this apprenticeship across subject positions has thus become a priority as far as secondary school literacy interventions are concerned (p.13).

The issue of pedagogical implications will be taken up in the final chapter.

3.5 CONCLUSION

This discussion of the nature and development of grammatical metaphor takes us back, via a rather indirect route, to the earlier review in Chapter 2 of research into language development in later childhood. While the studies reviewed emphasised either the development of 'structure' or the development of 'meaning', systemic theory accounts for both in an inseparable relationship within the same theoretical framework (Halliday 1984; 1981d):

> ... human language is not a sum that results from adding *parole* to *langue*, where *langue* and *parole* are seen as two separate things that can be brought together just when it suits us - rather *langue* and *parole* are integral to each other: their evolution is necessarily co-evolution. A functional model of language would be one which attempts to show how *langue* and *parole* are related. (Hasan & Perrett 1994, p.5)

As noted earlier, language development in systemic linguistics is conceived of primarily in terms of the changing relationship between the semantics and the lexicogrammar. In the shift from the protolanguage into the mother tongue, the content plane of the linguistic system becomes stratified into a semantic and a lexicogrammatical stratum. We are thus able to account for the fact that there is no one-to-one relationship between the semantics and the lexicogrammar. This distinction between the semantic and lexicogrammatical strata becomes particularly significant in adolescence, opening up the possibility of the metaphorical cross-couplings which characterise adult written discourse. The following chapter will explore in greater detail the nature and role of grammatical metaphor.

CHAPTER 4

THE NATURE OF GRAMMATICAL METAPHOR

This chapter will outline in some detail the phenomenon being referred to as 'grammatical metaphor'. It will explain the nature and role of grammatical metaphor within a stratified model of language. The chapter will seek to further describe grammatical metaphor through the development of a taxonomy of metaphorical categories which will form the basis of the data analysis in Chapter 6.

4.1 RELATING THE SEMANTICS AND THE LEXICOGRAMMAR

In the literature on grammatical metaphor, it is rare to find an attempt at defining it. Generally, the writer will simply describe some of its characteristics and offer some examples. Perhaps the most succinct account is that proposed by Halliday (1985a), where he describes grammatical metaphor as the principle whereby 'meanings may be cross-coded, phenomena represented by categories other than those that evolved to represent them' (p.xvii). In the following section, we will examine in greater detail the nature of the relationship between the semantics and the lexicogrammar and how these strata are related through the process of realisation.

4.1.1 The notion of realisation

The principle of 'realisation' is at the heart of a systemic explanation of how the linguistic system functions and is central to an understanding of grammatical metaphor. The realisation process can be traced through the linguistic system in great detail, beginning with the cultural and situational context and co-involving all components of the system - strata, ranks and metafunctions.

At the broadest level, we can say that the linguistic system as a whole realizes the culture in which it has evolved. The relationship between context and system is a symbiotic process whereby language actively construes the social context and where language is at the same time construed by the social context. Martin (1993b) refers to this relationship as one of 'mutual engendering'.

The context of situation will constrain the choices made in each of the metafunctional components of the linguistic system. Given a particular configuration of contextual variables, certain meanings in the semantic stratum will become salient. Layers of meaning will be contributed simultaneously by all the metafunctions - ideational, interpersonal and textual. Each set of options in the different metafunctions is realised through distinct structures which are mapped one onto the other in the production of utterances (Halliday 1975a). Thus, all discourse involves an ongoing simultaneous selection of meanings from these components which are mapped onto a single output in the realisation process (Halliday 1979a). In order to realise these meanings as wordings, corresponding choices will be made from within the relevant lexicogrammatical systems. The lexicogrammatical stratum acts as an integrative system, mapping the structures on to one another so as to form a single, multi-layered, structure (Halliday 1978c; 1977d).

> Grammatical structure is a device which enables the speaker to be both observer and intruder at the same time; it is a form of polyphony in which a number of melodies unfold simultaneously, one semantic 'line' from each of the functional components. (Halliday 1975a, p.30)

In generating a grammatical structure, the lexicogrammatical system network is traversed from left to right in terms of delicacy. A system whose entry condition has been satisfied is entered and one of its features is selected. As a particular feature is chosen, a realisation statement can be recorded, indicating those structural elements which are specified by that choice. This piece of structural information is increasingly elaborated as more delicate choices are made in the system network, each feature in a system specifying its characteristic structures. These fragments contribute in a cumulative way to the evolving structure, expressing the choices that have been made along the way. There is thus a continual interplay between system and instance, resulting in particular structural specifications as output.

The components of the structure are described in functional terms. The functional labels, such as Actor, Process, Goal, Theme, Rheme, Subject, serve to interpret the text

by indicating the part being played by the item in the construction of meaning and how it relates to other structural components in terms of abstract grammatical relations.

The functional elements of a structure are realised by a grammatical class item such as 'verbal group' or 'nominal group'. The class labels refer to the potential that the item has in the grammar of the language, without specifying its 'meaning' (Halliday 1985a; Halliday 1981a). The grammatical function Actor, for example, is typically realised by a group of the class nominal.

Greater specificity can be achieved by descending in rank. Each unit in the rank scale carries a particular structure which is confined to that unit. The nominal group realising the function Actor, can itself be realised by a configuration of functions (Deictic, Epithet, Thing, etc.) which in turn are realised by the grammatical class of word, and so on down the scale.

This process of continuous movement through the system becomes actualised in an instance of text. Martin (1992a) likens text to a dialectical process - a 'semiotic rally' (p.280) - which accounts for both persistence and change in the social system. Text is not only the outcome of the system, it engenders the system. Each instance feeds back into the system, unsettling its probabilities, and ultimately, through the linguistic system, into the cultural context. In addition, the text feeds back into the immediate context of situation, continuously altering the scenario:

> There is a constantly shifting relation between a text and its environment, both paradigmatic and syntagmatic: the syntagmatic environment, the 'context of situation' (which includes the semantic context - and which for this reason we interpret as a semiotic construct), can be treated as a constant for the text as a whole, but is in fact constantly changing, each part serving in turn as environment for the next. And the ongoing textcreating process continually modifies the system that engenders it, which is the paradigmatic environment of the text. Hence the dynamic, indeterminate nature of meaning... (Halliday 1977d, p.195)

4.1.2 Explaining grammatical alternatives

We have seen that, according to systemic theory, the relationship between semantics and grammar is not random or arbitrary. At the most extreme, we could say that for every slight nuance in meaning, there is a corresponding reflex in the grammar, and conversely, 'different ways of saying things are different ways of meaning' (Hasan 1984,

p.105). Halliday (1974b) posits that if we were able to reach sufficient levels of delicacy in the semantics, we would be able to explain any instance in the grammar. In practical terms, however, such profusion obscures semantic commonalities. Moreover, the currently available description of the semantic system is grossly underdeveloped. Patten (1988) states that 'there has been little detailed work done on the semantic stratum, and several important issues are yet to be resolved' (p.43). Similarly, Matthiessen (1992a) cautions that

> ... it is not yet possible in practice to describe the semantic system of English as a fully integrated system in the same way as we can describe its grammar and it is doubtful that it is theoretically possible. However, for certain purposes and limited regions of grammar, we can set up general semantic systems. (p.36)

Halliday (1975a) suggests that a comprehensive description of the entire semantic system is a fiction, though like Matthiessen he acknowledges that it may be possible to attempt a description of specific subsystems associated with a particular situation type and, in fact, several such descriptions have been made in recent years.

Halliday therefore allows for the possibility of a degree of 'free variation' in the grammatical system, with one relatively general semantic notion having more than one realisation in the grammar. But he goes further than this. Rather than simply acknowledging that there may be several variant realisations, he endeavours to show how these variants are related, not only to the general meaning they realise, but to each other. He does this, in part, by invoking the notion of grammatical metaphor - that one of the realisations will be the 'literal' or congruent, and others will be metaphorical variants.

While recognising the similarities between these variants, Halliday (1985a) cautions that 'grammatically metaphorical forms are never totally synonymous with their non-metaphorical counterparts; there will always be some semantic feature of features distinguishing the two' (p.58) He gives an as example the following:

> *Mary saw something wonderful*
> *Mary came upon a wonderful sight*
> *A wonderful sight met Mary's eyes*

and comments that:

> These are all plausible representations of one and the same non-linguistic 'state of affairs'. They are not synonymous; the different encodings all contribute something to the total meaning. But they are potentially co-representational, and in that respect form a set of metaphoric variants of an ideational kind. (1985a: p.322)

4.1.3 Realisation and grammatical metaphor

When considering the nature of grammatical metaphor and how it is implicated in the realisation process, it is necessary to understand that grammatical metaphor is not a 'component' of the linguistic system, but rather a mechanism (Bateman 1990) or a process (Martin 1992a) which negotiates the 'dialogue' between the semantics and the lexicogrammar and mediates the degree to which layers of meaning contributed by the different strata harmonise (Martin 1991b).

Of particular interest with regard to grammatical metaphor, is the realisation relation between the semantic stratum and the lexicogrammar. Systemic theory posits sets of mappings between semantic information and grammatical features. When these mappings stand in a natural relation (i.e. in the relation in which they originally evolved in the system), the realisation is said to be 'congruent' - actions are realised as verbs, qualities as adjectives, logical relations as conjunctions and so on. In other words, there is a match between the clausal configuration and the semantic commentary (Halliday 1994b). If however the correspondence between the semantics and grammar is marked, the relationship is seen as 'metaphorical'. A metaphorical realisation is semantically complex inasmuch as there are two meanings immanent - the congruent and the metaphorical - constituting a semantic junction.

Grammatical metaphor, then, refers to the cross-couplings between semantics and grammar, whereby the relationship between the semantics and the lexicogrammar can be deconstrued and reconstrued in another form.

4.2 TYPES OF GRAMMATICAL METAPHOR

In distinguishing various types of grammatical metaphor, reference is usually made to their role within a particular metafunction. Thus, for example, Martin (1992a) talks of experiential, logical, interpersonal and textual metaphors. It is possible, however, for an instance of grammatical metaphor to involve more than one metafunction. Its congruent origins may, for example, lie in the interpersonal metafunction, but its metaphorical impact is experiential. (e.g. She **should** go to the meeting. Her **obligation** is quite clear.) In this case, the literature is not consistent in terms of whether any instance will be described in terms of its metafunctional provenance or in terms of its metafunctional import.

The present study will in general follow the lead of Halliday and Matthiessen (in press), classifying different types of metaphor according to their import. This has the effect of categorising most types of grammatical metaphor as 'experiential'. While this reflects the objectifying role played by most instances of grammatical metaphor, it tends to obscure the metafunctional complexity of certain types. In the following description, therefore, different types of metaphor will be described, where necessary, in terms of both their metafunctional origin and import, e.g. modal : experiential.

Given the complexity of the linguistic system, and the enormous potential for cross-coding opened up by grammatical metaphor, the number of metaphorical types is considerable. This section will review the most common manifestations of grammatical metaphor. In order to illustrate both congruent and metaphorical patterns, a sample text will be analysed. In its congruent form, it is the type of sentence one might find in a teenage paperback:

The young factory worker was miserable because her boyfriend might leave soon.

In another context, however, we might find the following highly metaphorical version:

Her misery was caused by the possibility of her boyfriend's imminent departure.[1]

This section will examine these sentences in terms of the different metafunctions involved in their realisation and in terms of how the realisation process lends itself to both congruent and metaphorical interpretations.

[1] Neither of these texts is 'authentic' inasmuch as they have been deliberately constructed to demonstrate a number of points in the most efficient manner. They are nevertheless quite 'possible' texts.

4.2.1 Experiential grammatical metaphor

The most commonly identified type of grammatical metaphor, and the most significant in terms of the present study, is that which is concerned with the representation and interpretation of our experience of the world. As discussed earlier, the ideational metafunction encompasses how language is involved in construing the phenomena of the external world and the inner world (the experiential component) and in construing the relations between those phenomena (the logical component).

(i) Logical : experiential metaphor

The logical (or logico-semantic) component of the grammar is concerned with the representation of reality in the form of abstract relations between phenomena. When two figures are thus related, the result is a clause complex. Or we could say that a semantic sequence of processes is realised in the grammar by a clause complex (Matthiessen 1992a). The nature of the relationship between the two clauses may be seen in terms of two simultaneous systems: degree of interdependence and type of logico-semantic relations.

The degree of interdependence between the two clauses is referred to as 'taxis'. Clause complexes where the status between the clauses is equal are termed 'paratactic'. In contrast, clauses having unequal status in the clause complex are 'hypotactic' - one dominates and the other is dependent on it.

The type of logico-semantic relation between the clauses may be one of either projection or expansion. **Projection** refers to the development of a clause complex by the secondary clause being projected by the primary clause. The secondary clause may be in the form of

a) a locution:

e.g. *He said* // *"I'm leaving"* (quoting)
projecting clause projection: locution

He said // *he was leaving* (reporting)
projecting clause projection: locution

or

b) an idea:

e.g.	*He thought* //	*"I have to go"*	(quoting)
	projecting clause	projection: idea	
	He realised //	*he would have to go*	(reporting)
	projecting clause	projection: idea	

The relationship between clauses of this type is indicated by the notation " (locution) or ' (idea):

projecting clause " projection (locution)
projecting clause ' projection (idea)

Expansion, on the other hand, refers to the development of a clause complex by means of elaboration, extension or enhancement.

a) Elaboration is where one clause expands another by further specifying or describing it. No new element is introduced, but the existing element is further characterised by, for example, restating, clarifying, refining, specifying in greater detail, commenting or exemplifying. The notation used to indicate an elaborating relationship is an 'equals' sign (=).

e.g. *She was distressed; [=] she felt as if her world had collapsed.*

b) Extension is where one clause expands another by extending beyond it by, for example, adding some new element, giving an exception to it, or offering an alternative. The notation used to indicate an elaborating relationship is a 'plus' sign (+).

e.g. *He was going away [+] but she had to stay behind.*

c) Enhancement is where one clause expands another by qualifying it in various ways, for example by reference to time, place, manner, cause or condition. The notation used to indicate an elaborating relationship is a 'multiplication' sign (x).

e.g. *He was going away [x] so she was distraught.*

The congruent realisation pattern can be exemplified by reference to the sample text.

The young factory worker was miserable ***because*** *her boyfriend might leave soon.*

Here, the semantic sequence of processes is realised by a clause complex. The logical relation between the clauses is expressed by means of an enhancing conjunction of cause: reason. Diagrammatically, the realisation path could be represented as follows[2]:

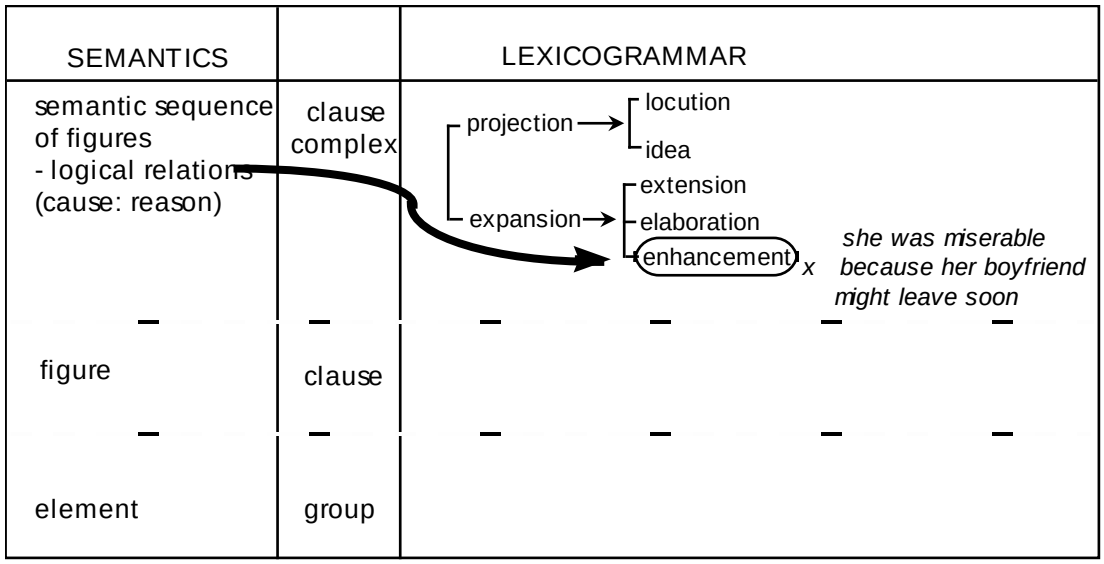

Figure 4.1: Congruent realisation of logical relation

But both projection and expansion can be realised metaphorically. Typically in a metaphorical interpretation of expansion, the logical relation (e.g. causality) is realised not by means of a conjunction, but by some other grammatical category such as a verb or a noun:

The young factory worker's misery ***was caused*** *by the possibility of her boyfriend's imminent departure.*

The diagrammatic representation now indicates that the semantic sequence of figures has been realised by a clause simplex and the logical relation by a verb:

[2] In the following diagrams, the bold line represents the congruent realisation, while the metaphorical realisation is represented by a bold broken line and a fainter broken line indicating a semantic junction.

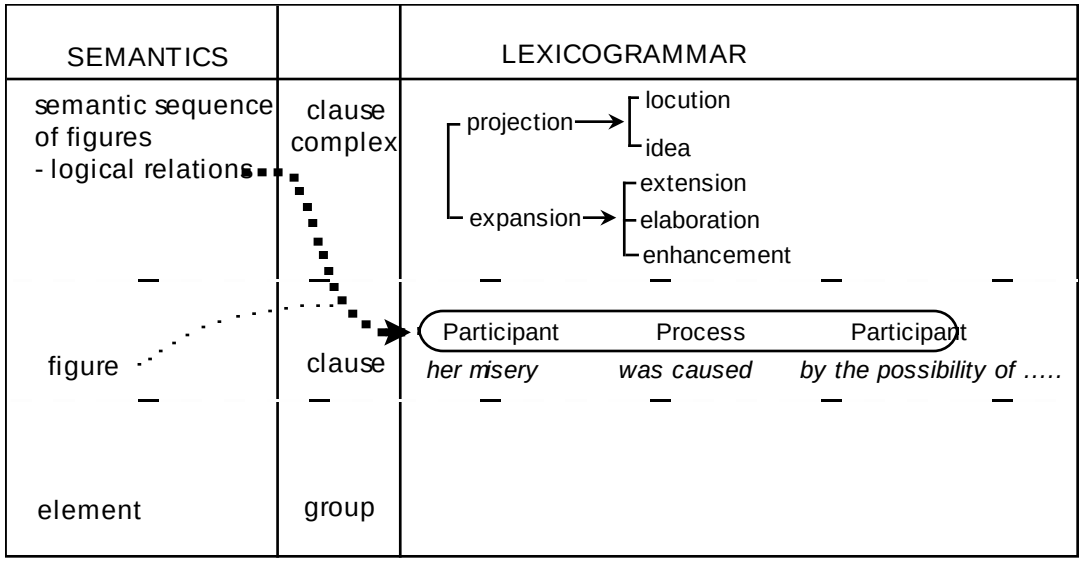

Figure 4.2: Metaphorical realisation of logical relation

While the congruent realisation of a projecting or expanding sequence of semantic processes is always a clause complex in the grammar, the metaphorical realisation has the effect of reducing the complex to a clause simplex, with the logical relationship being realised as part of an experiential configuration. (We could thus refer to this type of grammatical metaphor as logical : experiential.)

The semantics of the metaphorical variant is now a junction of 'sequence' and 'figure', illustrated in the diagram by the two dotted lines.

This invariably has repercussions on the surrounding grammar, often setting in train a series of metaphorical cycles. This can be seen in the following section, as the impact of the logical metaphor is felt in the nominal groups.

(ii) Experiential metaphor

The linguistic system which has evolved to represent our experience of the world is that of TRANSITIVITY. Halliday (1991b) refers to TRANSITIVITY as 'a theory about the types of process that go to make up human experience' (p.52). At the semantic level, the 'world' is construed in terms of processes - doing, happening, signifying, sensing, being, and so on - and the participants involved in these processes. Attendant on the processes are certain circumstances, indicating the nature of the process in terms of such categories as extent, location, manner, causality, and so on. This constellation of processes, participants and circumstances could be referred to at the semantic level as a

'semantic processual configuration' (Matthiessen 1992a), or more simply as a 'figure' (Halliday & Matthiessen (in press)).

These rather general and 'fuzzy' semantic categories are realised in the grammar in terms of more specific categories. Thus we find different types of semantic 'goings on' being realised by different grammatical process types:

- 'action' semantic processes are realised congruently in the grammar by verbal groups functioning as material and behavioural processes

- 'signifying' semantic processes are realised congruently in the grammar by verbal groups functioning as mental and verbal processes

- 'being' semantic processes are realised congruently in the grammar by verbal groups functioning as relational and existential processes

These various categories are distinguished by the grammatical patterns typically associated with them, primarily the types of participants associated with the process. A material process, for example, will minimally require a participant which carries out the action - the Actor. There might also be a participant upon which the process impacts - the Goal, as well as certain possible indirect participants (Beneficiary; Range).

The congruent realisation in the grammar of a figure would involve

- selection of process type (material, mental, relational, etc.)
- configuration of TRANSITIVITY functions (Actor, Process, Goal, Location, etc.) associated with this process type
- selection of grammatical classes which realise these functions (nominal group, verbal group, prepositional phrase, etc.) (Halliday 1985a, p.321).

Turning to the sample text, we could analyse the first clause, in this case a relational clause, as follows:

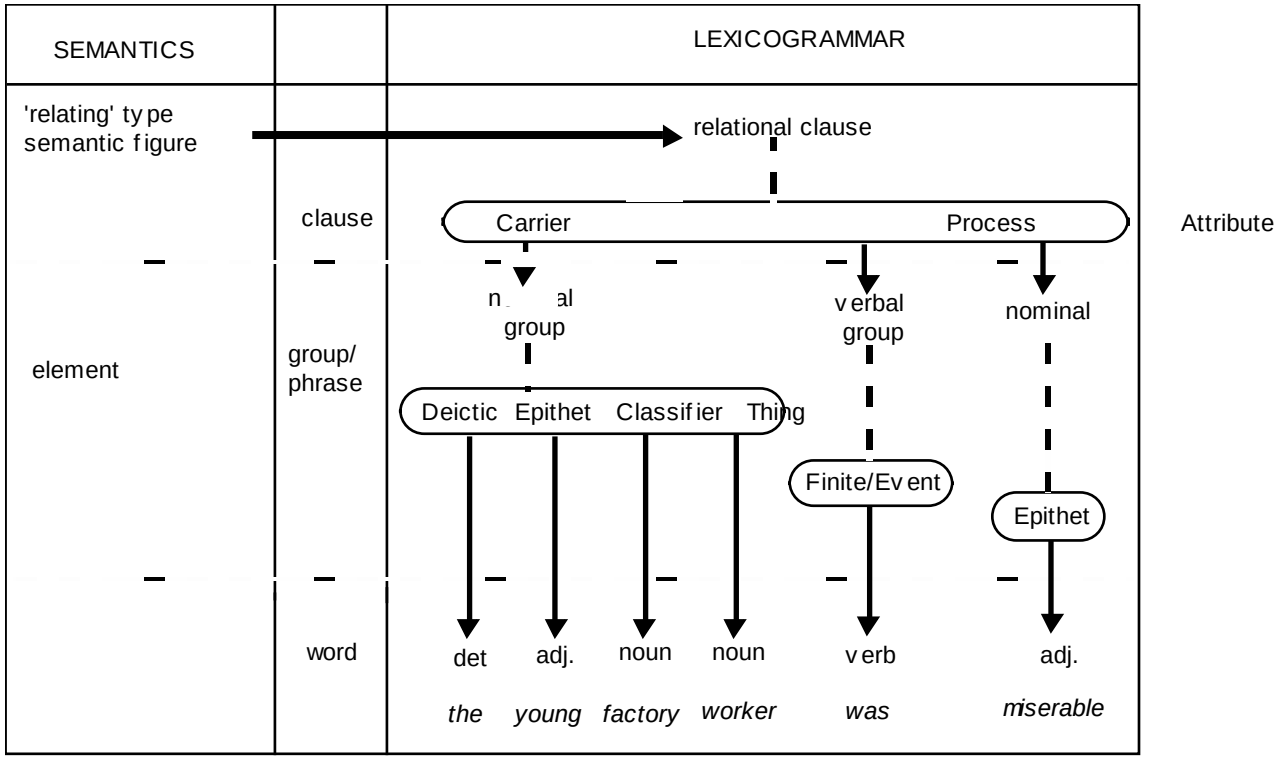

Figure 4.3: Congruent realisation of relational figure

The bold arrows indicate the congruent path in the realisation process. A figure concerned with the relating of a participant to an attribute is realised congruently as a relational attributive clause, with a Carrier Process Attribute structural specification. At the group level, these grammatical functions are realised by a nominal group, a verbal group and another nominal respectively.

The metaphorical interpretation of that semantic entity might be represented as in the figure below:

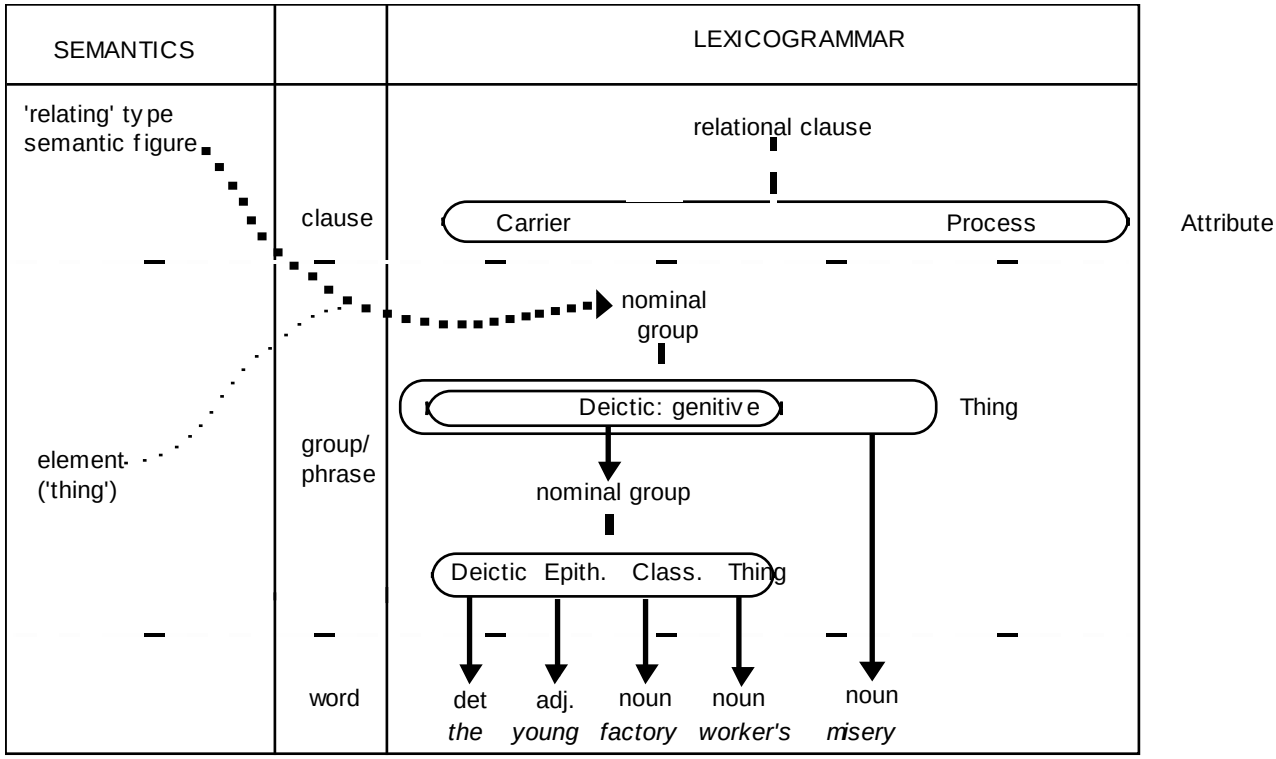

Figure 4.4: Metaphorical realisation of relational process

Here the figure, congruently realised as a clause, is being realised by a nominal group in the grammar. The relating verb has disappeared, the characteristic *miserable* is now represented as a noun *misery*, while *the young factory worker* is no longer a direct participant but has become a genitive Deictic in the nominal group.

In the above diagram, the semantic junction of 'figure' and 'element' is depicted by the two dotted lines, indicating that in the metaphorical variant, there are the two meanings 'at risk'.

The second clause, *her boyfriend might leave soon*, could be characterised semantically as a figure involving a material process. The diagram indicates how this figure would be realised congruently in the grammar as a material clause with the structure of Actor Process Circumstance, and the characteristic flow-on down the ranks:

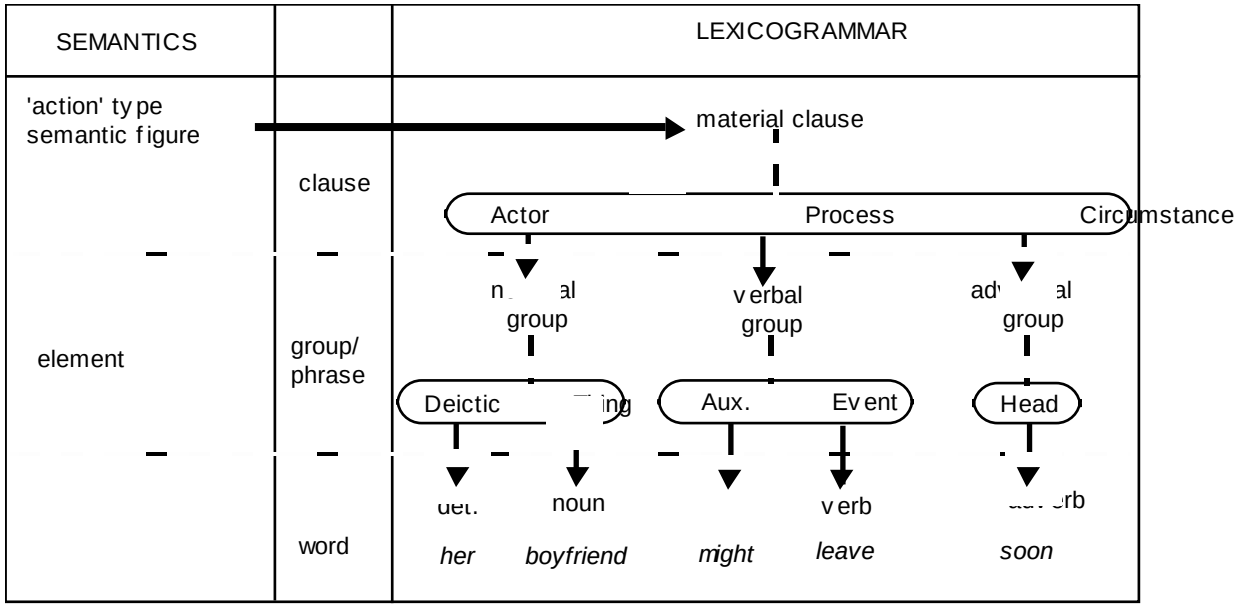

Figure 4.5: Congruent realisation of a material process

In the metaphorical interpretation, however, this semantic processual configuration is realised again as a nominal group, this time with the structural specification of Deictic Epithet Thing. The action process is no longer realised by a verbal group/Process (*might leave*) but by a nominal/Thing (*departure*), the temporal circumstance is no longer realised by an adverbial group/Circumstance (*soon*) but by an adjective/Epithet (*imminent*), and *the boyfriend* is no longer the Actor but, as above, becomes an indirect participant in the form of a genitive Deictic.

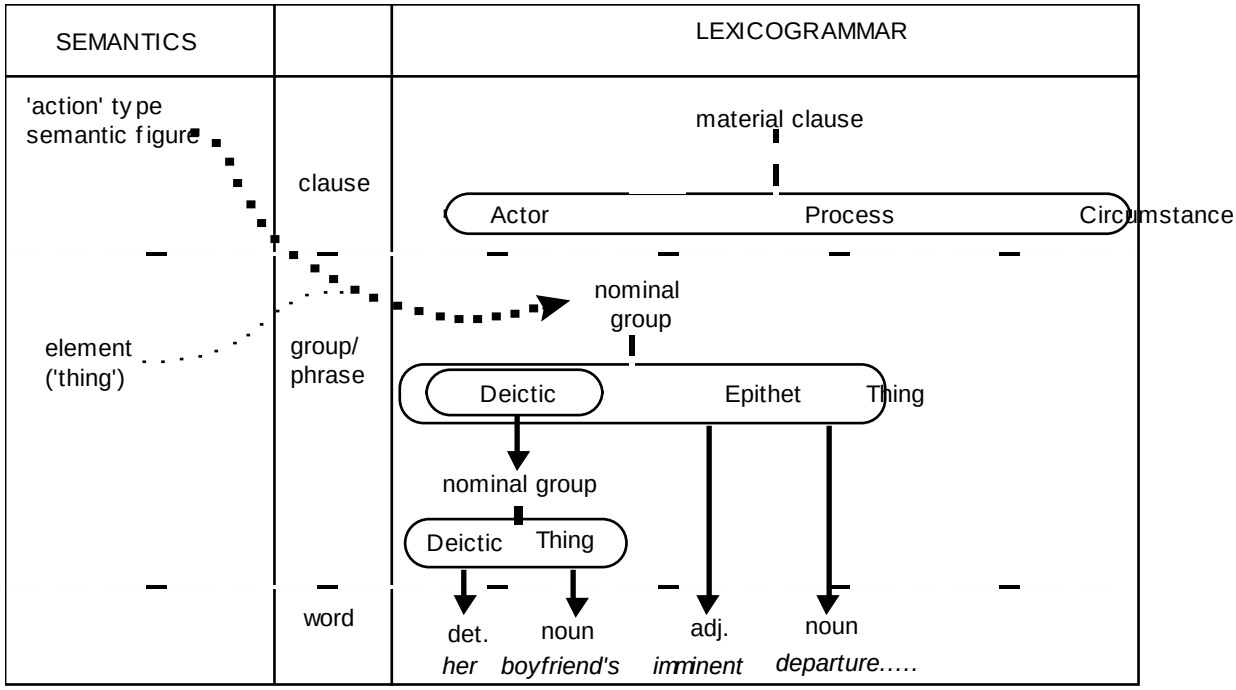

Figure 4.6: Metaphorical realisation of a material figure

4.2.2 Interpersonal grammatical metaphor

The interpersonal metafunction is concerned with interaction between speaker and listener - what Matthiessen (1992a) refers to as 'the enactment of intersubjectivity' (p.323) whereby social relations are created, maintained and, in time, changed (Hasan & Perrett 1994). Interpersonal resources enable the assuming and assigning of roles in interactional exchange and the intrusion of the speaker into the speech situation through the giving or requesting of attitudes, comments, and evaluations.

Although the present study concentrates on the growth of experiential grammatical metaphor, it was considered useful to include here some reference to grammatical metaphor in relation to the other metafunctions. This will serve to provide a more comprehensive taxonomy of grammatical metaphor. While an extensive analysis has not been undertaken in this study of the subject's development of Interpersonal metaphor, some examples are given from the data.

The major interpersonal systems in the lexicogrammar are MOOD and MODALITY.

(i) Metaphors of mood

In a dialogic situation there will be an exchange of 'moves'. These moves involve the assignment of roles - initiating (giving and demanding) and responding (accepting and giving on demand) - and the exchange of symbolic commodities: information or goods-and-services.

The intersection of these contextual features gives rise to the interpersonal semantics of speech functions. These basic speech functions are realised congruently in the MOOD system of the grammar as follows:

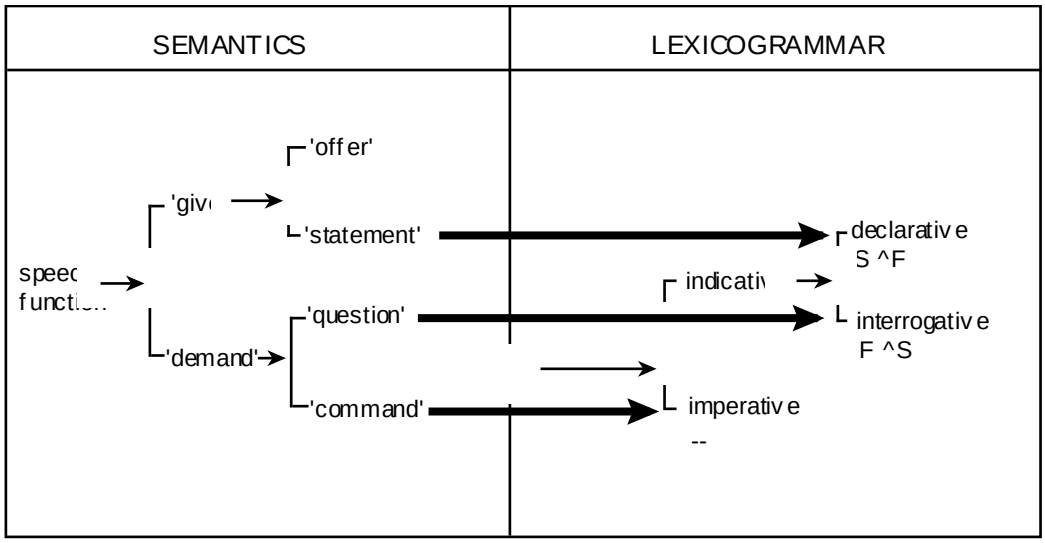

Figure 4.7: Congruent realisation of speech functions

From the diagram we can see that the major distinction in the grammar is between 'indicative' clauses concerned with the exchange of information (propositions) and 'imperative' clauses concerned with the performance of an action (proposals). Indicative clauses are further classified into 'declarative' and 'interrogative'. A statement is realised congruently as a declarative clause, a question as an interrogative clause and a command as an imperative clause. The category of 'offer' has no specific grammatical realisation.

The range and intricacy of the moves involved in interpersonal rhetoric extends well beyond the potential offered by the congruent MOOD resources. The dialogic potential is therefore augmented in the lexicogrammar by metaphorical possibilities.

In a metaphorical realisation, a speech function will be realised by an unexpected selection in the lexicogrammar. These are referred to in Speech Act Theory as 'indirect (perlocutionary) speech acts', though Searle (in Ortony (ed.) 1979) acknowledges their metaphorical nature, claiming that a speaker means what he says, but he means something more as well. In systemic linguistics they are seen as simply another manifestation of grammatical metaphor. Our sample text is quite congruent in terms of MOOD, however we could imagine our heroine commanding *Stay with me!* This imperative would be a congruent realisation of a command. She might equally have said *Why don't you stay?*. In this metaphorical variant, an interrogative is now functioning as a command.

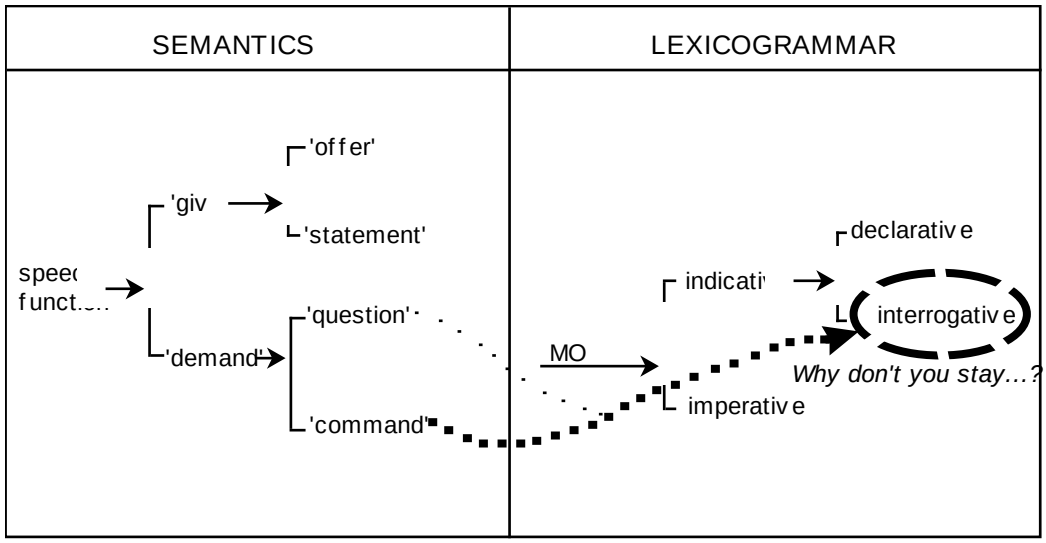

Figure 4.8: Metaphorical realisation of speech function ('command')

In analyzing the core data, few examples of MOOD metaphors were found, even though it is considered to be one of the earliest and most frequently used type of grammatical metaphor to be found in children's language. (Painter even suggests that instances of this type could be identified in the protolinguistic phase when the child makes an atypical intonation choice (personal communication).)

This absence of examples in the written data is to be expected, however, as the MOOD system comes more fully into play in situations of face-to-face negotiation. In the oral data we do find numerous instances of this type of metaphor, for example:

> *[Stefan is whistling loudly and Nick wants him to stop]*
> N: I have very sensitive hearing. *[age 8]*

[Nick is looking at newly born baby calf]
N: I wonder how the baby survived on this cold ground. *[age 9]*

[Stefan is getting hot in the car]
S: Isn't someone going to put their window down? Or will it just get hot and stuffy in here? *[age 7]*

[Stefan has just poured drinks for everyone]
S: Do I hear any appreciation? *[age 8]*

[Nick begins with a mood metaphor until he realises that he needs to be more direct]
N: Why won't you start opening another packet Stef?
S: Nick we need some blue. .... Just a few more bits of blue in here.
N: No do it!
S: One more piece. ...
N: Open another packet! *[age 9]*

... even to the point of conscious recognition of its function:

M: Go and clean it up.
N: I beg your pardon.
M: What?
N: You mean, 'Would you mind ...?' *[age 14]*

(ii) Modal : experiential metaphors

The Mood element is only one aspect of the interpersonal clause structure. There are other interpersonal resources concerned with modality which serve to express the speaker's 'angle' on a proposal or proposition - his or her assessment of it in terms of probability, usuality, obligation and inclination.

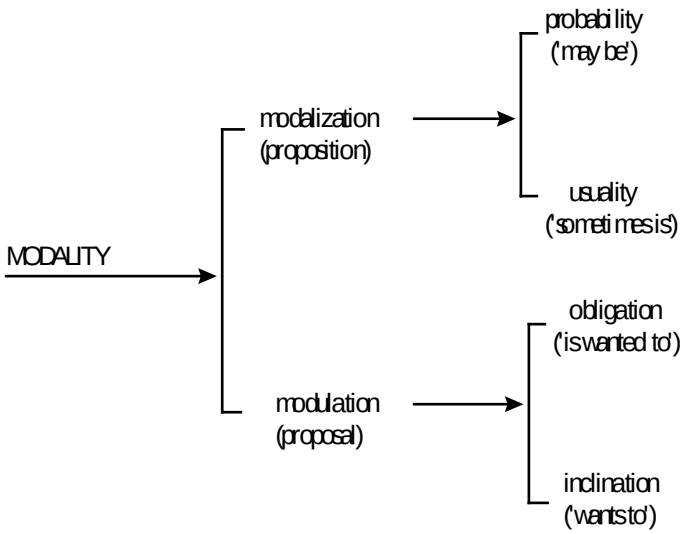

Figure 4.9: System of types of modality (after Halliday, 1985a: p. 335)

Modality is concerned with 'the area of meaning that lies between yes and no - the intermediate ground between positive and negative polarity' (Halliday 1985a, p.335). Within each of the above options, there is the possibility of gradation from high to low:

	Probability	**Usuality**	**Obligation**	**Inclination**
High	certain	always	required	determined
Median	probably	usually	supposed	keen
Low	possible	sometimes	allowed	willing

Figure 4.10: Values of modality (Halliday 1985a, p.337)

According to Matthiessen (1992a), modality is realised congruently in the grammar by Mood Adjuncts (e.g. possibly, sometimes, willingly) and Modal Finites (e.g. must, would, may). These strategies can serve as alternative ways of expressing modality (*he **might** leave; he will **possibly** leave*), or they can combine (*he **might possibly** leave*).

The sample text, for example, employs the Modal Finite *'might'* in order to express probability:

*The young factory worker was miserable because her boyfriend **might** leave soon.*

Diagrammatically, this congruent realisation could be represented as follows:

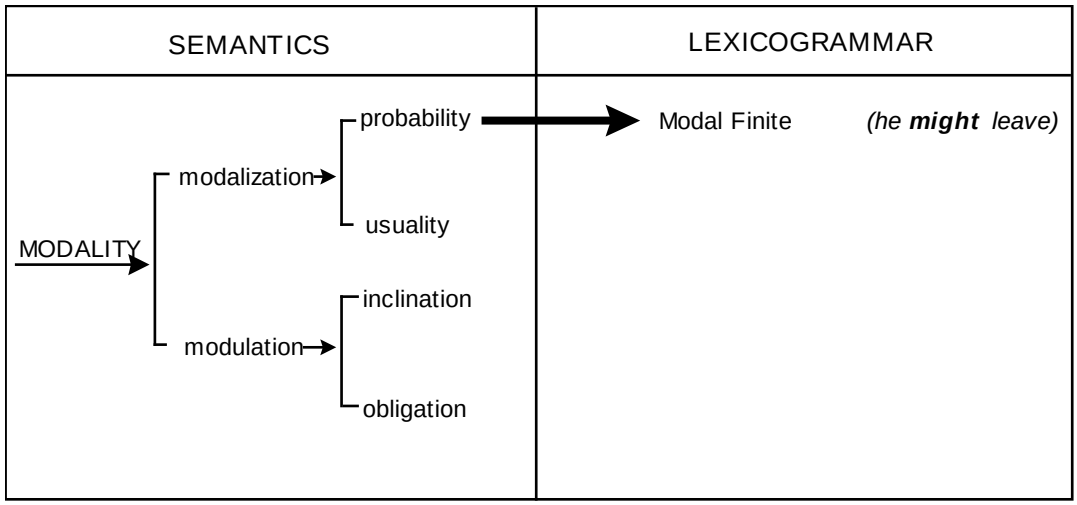

Figure 4.11: Congruent realisation of assessment of probability

These congruent realisations, however, don't allow for the sort of flexibility and subtlety often required as the speaker seeks to intrude his or her assessment. Metaphorical versions have therefore developed to enable the speaker to negotiate a position between 'yes' and 'no'. Both modalisation and modulation have an indefinitely large range of metaphorical realisations (Martin 1992a).

Interpersonal metaphorical realisations draw on ideational resources. This requires the listener to 'interpret the utterance on two levels: literally as an ideational structure and figuratively as an interpersonal one' (Martin 1991b, p.119). When representing the metaphorical realisation of our sample text diagrammatically, it will therefore be necessary to include both interpersonal and ideational resources:

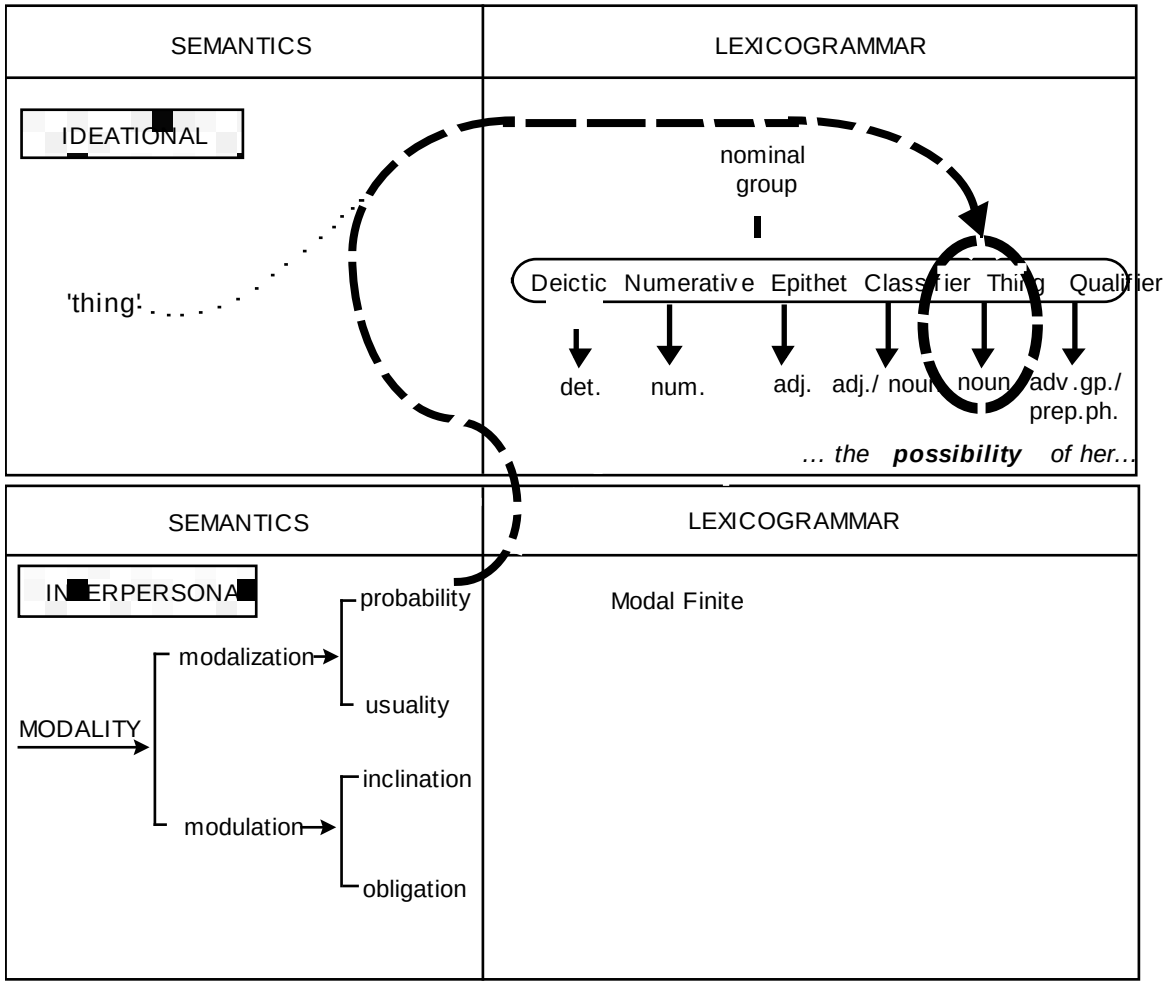

Figure 4.12: Metaphorical realisation (as nominal) of assessment of probability

In addition to those metaphors of modality which are realised experientially, there are other metaphorical realisations of modality which are unique amongst metaphorical types inasmuch as they have the effect of 'expanding' rather than 'compacting'. These are metaphors for modality which involve the use of processes of cognition and intention, which come to serve as metaphors for modalisation and modulation respectively (Halliday 1985a; Halliday & Matthiessen (in press)).

	CONGRUENT	METAPHORICAL
MODALISATION [probability]	probably perhaps	I think ... I suppose ...

MODULATION [inclination/ obligation]	must should	I want ... I insist ...

Figure 4.13: Congruent and metaphorical realisations of modality involving processes of cognition and intention

Some examples of this type of metaphor are found in the oral data from the present study:

[In the car]
S: How long will it take to get home?
N: **I predict** it will take half an hour.
S: Before you said two hours. ... I'm not saying your estimate was wrong. Is there such a thing as 'estimation'?
[1988, age 10 (N) and 9 (S)]

[Watching television]
S: **I doubt** if there'd be a boa there.
N: No, Stef, there isn't.
S: That's why I said '**I doubt**'.
N: Oh.
[1988, age 10 (N) and 9 (S)]

[Looking at cereal packet offering prize of American holiday]
S: America's the best place to go for a holiday.
N: No, it isn't.
S: Disneyland and everything.
N: No.
S: I said '**I think**'.
[1989, age 11 (N) and 10 (S)]

[S. mimes 'I think you stink'. M. looks at him with mock disapproval.]
S: But it was only a '**think**'.
[1990, age 11]

[S. commenting on how Grandma doesn't like him to say something if he's not sure of it]
S: Grandma doesn't like the '**I think**', the guessing, the assumptions.
[1990, age 11]

[S. says 'Yum yum pigs bum'. N. jokingly reproves him.]
N: **I don't think** that's acceptable.
[1990, age 12]

[At the dinnertable]
N: **I think** I have a feeling that it might rain tonight.
[1992, age 14]

The various forms of modal : experiential metaphor will be discussed in further detail in Chapter 6.

4.2.3 Textual grammatical metaphor

Most systemic accounts of grammatical metaphor (e.g. Halliday 1985a; Matthiessen 1992a) consider only ideational and interpersonal grammatical metaphor. Martin on the other hand allows for the possibility of textual metaphor.

Martin (1992a) suggests that when discourse systems are used to construe text as 'material' social reality, we could view this as metaphorical. Martin gives examples of textual metaphors which are logically oriented, providing resources for incongruent realisations of conjunctive relations:

meta-message relation	*reason, example, point, factor, pointing out*
text reference	*this*
internal conjunction	*a number of reasons, for example, another example, as a final point, as a result of these factors*
negotiating texture	*let me begin by...*

(p.420)

While Halliday (p.c.) concedes that there might be a case for certain types of textual metaphor, e.g. 'Let me begin by ...' as a metaphorical variant of 'Firstly...', in general the notion of textual grammatical metaphor remains somewhat controversial.

4.3 DEVELOPING A TAXONOMY OF GRAMMATICAL METAPHOR

Having looked broadly at the different types of grammatical metaphor from a metafunctional perspective, this section will draw on these broad groupings to develop a more detailed taxonomy of metaphorical types to serve as a framework for the analysis of the data.

Because the notion of grammatical metaphor is relatively new and still in the process of being developed, much of the groundwork for this thesis consisted in attempting to consolidate present discussion of this phenomenon and to clarify how different researchers were using the term. In order to use grammatical metaphor as an analytical tool, it was necessary first of all to identify the different types of metaphor in some detail. To do this, a search of systemic literature was undertaken and any mention of grammatical metaphor was noted, together with any examples provided by the author of the various types. Major sources for these examples were Halliday (1985a) who first elaborated the notion of grammatical metaphor in the *Introduction to Functional Grammar*, Ravelli (1985) who provided one of the earliest listings of various types of grammatical metaphor (though not categorised), Martin (1992a) who did not systematically list the various types but who extended the notion of grammatical metaphor into the textual metafunction, and Matthiessen (1992a) who further expanded on Halliday's original typology. These examples (some two hundred in all) were then grouped according to type and sub-type. This was not a straightforward process, as different authors illustrated grammatical metaphor in different ways using different terminology.

The instances of grammatical metaphor mentioned in the systemic literature were then verified and supplemented by examining the potential within the systemic model for grammatical metaphor to occur. Depending on the level of delicacy, this potential is enormous, and only the more commonly discussed types have been included in the taxonomy.

Some time after this task was completed, Halliday and Matthiessen (in press) published a taxonomy of different types of Ideational grammatical metaphor. Most of the categories overlapped with the taxonomy above, though at times different terminology was used. In the interest of consistency, the Halliday/Matthiessen categorisation has been adopted, but expanded to include other sub-types found in the literature as well as

types of Interpersonal and Textual metaphor. The resultant typology is summarised below.

IDEATIONAL GRAMMATICAL METAPHOR

I. SHIFT TO 'THING'

#	semantic shift	class shift	example
Ia	quality > quality : thing	adjective > noun	unstable > instability
Ib	process > process : thing (i) 'doing' process > 'doing' process : thing (ii) 'sensing' process > 'sensing' process : thing (iii) 'saying' process > 'saying' process : thing (iv) 'relating' process > 'relating' process : thing	verb > noun verb > noun verb > noun verb > noun verb > noun	 transform > transformation imagine > imagining declare > declaration has > ownership
Ic	phase of process > phase of process : thing	tense > noun	going to > prospect
Id	conation > conation : thing	phase > noun	try to > attempt
Ie	modality of process > modality of process : thing	modal > noun	can > possibility; may/must > permission/ necessity
If	circumstance > circumstance : thing minor process > minor process : thing	adverbial group/prep.phrase > noun preposition > noun	'how quickly?' > rate [of growth] with > accompaniment
Ig	process + circumstance > process + circumstance : thing	verb+adverb/prep.phrase > noun	move in circle > revolution
Ih	relator > relator : thing	conjunction > noun	so > cause, proof

Table 4.1 Ideational Grammatical Metaphor: Shift to 'thing'

II. SHIFT TO 'QUALITY'

#	semantic shift	class shift	example
IIa	thing > thing : class (of things)	noun head > noun premodifier	engine [fails] > engine [failure]
IIb	thing > thing : circumstantial quality	noun head > prep.phrase postmodifier	glass [fractures] > [the fracture] of glass
IIc	thing > thing : possessor (of thing)	noun head > possessive determiner	government [decided] > government's[decision]
IId	process > process : quality	verb > adjective	[poverty] is increasing > increasing [poverty]
IIe	phase of process > phase of process : quality	tense/phase verb (adverb) > adjective	begin > initial
IIf	modality/modulation of process > modality of process : quality	modal verb/adverb > adjective	will, always > constant; may, must > permissible, necessary
IIg	circumstance > circumstance : quality/class	prepositional phrase/adverb > noun premodifier	[acted] brilliantly > brilliant [acting]; [argued] for a long time > lengthy [argument]; [cracks] on the surface > surface [cracks]
IIh	relator > relator : quality	conjunction > adjective	before > previous

Table 4.2 Ideational Grammatical Metaphor: Shift to 'quality'

III. SHIFT TO 'PROCESS'

#	semantic shift	class shift	example
IIIa	circumstance > circumstance : process	be/go + preposition > verb	be about > concern; be instead of > replace; comes after > follows
IIIb	relator > relator : circumstance	conjunction > verb	and > complement; then > follow; so > lead to ; by > enable; because > cause; while > overlaps; whereas > contrasts with; like > resembles, etc
IIIc	process type A > process type B	verb A > verb B	On the fifth day they **arrived** at the summit > The fifth day **saw** them at the summit
IIId	conation > conation : signifying process	phase verb > verb	are able to; can > know how to

Table 4.3 Ideational Grammatical Metaphor: Shift to 'process'

IV. SHIFT TO 'CIRCUMSTANCE'

#	semantic shift	class shift	example
IV	relator > relator : circumstance	conjunction > prepositional phrase	so > as a result; because she didn't apply herself > through her lack of application

Table 4.4 Ideational Grammatical Metaphor: Shift to 'circumstance'

INTERPERSONAL GRAMMATICAL METAPHOR

I. MODALITY

#	semantic shift	class shift	example
Ia	figure (implicit Subjective) > sequence (explicit Subjective)	modal verb > clause complex	will > predict/ reckon
Ib	figure (implicit Subjective) > sequence (explicit Subjective)	modulated verb > clause complex	may/ must > I recommend/ I insist
Ic	figure (implicit Objective) > sequence (explicit Objective)	modal adjunct > clause complex	probably/ certainly > it's likely/ it's certain

Table 4.5 Interpersonal Grammatical Metaphor: Modality

II. MOOD

#	semantic shift	class shift	example
IIa	command > command : statement	imperative > modulated declarative	return the books > you should return the books
IIb	command > command : question	imperative > interrogative	show me the receipts > could you show me the receipts?
IIc	command > command : statement	imperative > projection	show me the receipts > I want you to show me the receipts
IId	command > command : question	interrogative > projection (desire)	come here > would you like to come here?
IIe	question > question : statement	interrogative > projection (co	is he at home? > I wonder whether he's at home
IIf	question > question : offer	interrogative > declarative	shall I come over? > I'd love to come over

Table 4.6 Interpersonal Grammatical Metaphor: Mood

TEXTUAL GRAMMATICAL METAPHOR

#	semantic shift	class shift	example
I	organising field > organising text		reason, example, point, factor, pointing out
II	identifying participants > identifying facts	text reference	this
III	orchestrates activity sequences > orchestrates textual sequences	internal conjunction	a number of reasons, for example, let me begin by, another example, as a final point, as a result of these factors
IV	negotiating texture (construing monologic text as dialogue)		let me begin by ...

Table 4.7 Textual Grammatical Metaphor

While this taxonomy cannot be regarded as in any way definitive, given the evolutionary nature of the systemic model, it was considered sufficient at this stage to serve as a means of analysing Nick's written texts.

CHAPTER 5

THE PHYLOGENETIC EVOLUTION OF GRAMMATICAL METAPHOR

In defining grammatical metaphor, Halliday refers to semogenic provenance in terms of its phylogenetic, ontogenetic, and logogenetic histories. This chapter will outline these three histories and then summarise Halliday's description of phylogenesis in relation to grammatical metaphor.

5.1 SEMIOTIC HISTORY: PHYLOGENESIS, ONTOGENESIS AND LOGOGENESIS

As noted in Chapter 1, Halliday explains congruence (and by implication, metaphor) by referring to three historical dimensions: the phylogenetic, the ontogenetic and the logogenetic. In order to further elaborate on the notion of grammatical metaphor, this chapter will begin by considering these three histories before moving on to an outline of Halliday's phylogenetic account of the evolution of grammatical metaphor.

The nature and significance of any linguistic phenomenon can be explained in terms of its semiotic history:

> In coming to an understanding of any semiotic event - whether it be a text, a clause or a phenomenon such as grammatical metaphor - it is necessary to consider that event within the environment of prior related semiotic events. Any act of meaning has a semiotic history and its interpretation will depend on prior and concurrent semiotic events which have created the conditions for its occurrence and its range of possible interpretations. (Halliday 1989b, p.3)

Halliday identifies various dimensions of semiotic history which contribute to the understanding of each act of meaning. In his paper, 'The History of a Sentence: An essay in social semiotics' (1989b), he refers to the intertextual, the developmental, the systemic, and the intratextual strands.

The intertextual history refers to 'the temporally prior set of acts of meaning to which the given act of meaning makes allusion' (1989b, p.4). It is particularly concerned with the evolution of institutionalised registers such as the discourse of science, literary genres, history textbooks, and the like.

The developmental history of a semiotic event refers to 'the prior semiotic experience of those who enact it' (1989b, p.8) - the individual's history as a 'meaner', including those experiences which are unique to the individual, those experiences shared by the individual's 'meaning community' (the microculture and the macroculture), and those experiences which could be considered universal - protolanguage before mother tongue; speech before writing; generalisation before abstraction before metaphor; and the like.

The systemic history refers to the evolution of the semantic systems and the lexicogrammatical systems of the language.

And the intratextual history refers to the dynamic of a particular text - the way in which the grammar of a text unfolds in time. A particular semiotic entity within a text can be seen as having been created by the grammatical system of English 'catalysed by the flow of the discourse':

> The systemic history of the English nominal group and the instantial history of this particular text converge to produce a wording that functions to package the information as required by the argument at that particular point in the construction of the text. (1989b, p.10)

In subsequent discussions of semo-history, Halliday has talked of 'three histories' - the phylogenetic, the ontogenetic, and the logogenetic. It would appear that the phylogenetic corresponds to the systemic history, the ontogenetic to the developmental history, and the logogenetic to a collapsing of the intertextual and intratextual histories.

Matthiessen (1994) discusses the interrelationship of these three semo-histories:

> The time frame of the instantial system is that of a single text - that is, the time over which the system is ***instantiated*** through **logogenesis**. However, this is only the shortest time frame over which meaning is created in a system. Innumerable instantial systems are created in the life of an individual person, each constituting an enactment of an instantial personae of that person. The person's meaning potential ***grows*** throughout this more extended time-scale of meaning creation - **ontogenesis**. The person is part of more extended social organisations - multi-generational social groups. Through these social groups the time-frame of the creation of meaning extends much further than the life of a

> person to the species. This is the time-frame of **phylogenesis**, where the overall system ***evolves*** over time. We thus have three different domains of semogenesis - the instantial personae of a person, the person, and the group extending into the species - and these are associated with three different time frames - the logogenetic, the ontogenetic, and the phylogenetic time frames - and three different modes of genesis - instantiation, growth, and evolution.
> ... each type of semogenesis takes place in the environment of another (logogenesis within ontogenesis, and ontogenesis within phylogenesis), and, at the same time, logogenesis enables ontogenesis, which in turn enables phylogenesis. (p. 22)

In Chapters 6 and 7 we will be examining the ontogenetic growth of grammatical metaphor and the close relationship between logogenesis and ontogenesis in the learning process, but at this stage let us examine phylogenesis in greater detail.

5.2 PHYLOGENESIS AND GRAMMATICAL METAPHOR

Phylogenesis refers to the evolution of the linguistic system over time:

> Phylogenetically, an instantial system may have been affected and have an effect beyond the logogenetic time frame. Typically, this would happen cumulatively through many instantial systems, but a single one may, in principle, be highly valued enough to have an impact on its own. (Matthiessen 1994, p.23)

The following historical account of the evolution of grammatical metaphor within the linguistic system draws largely on certain key papers by Halliday: 'Language and the Order of Nature' (1987b); 'The Language of Learning' (1991b); 'On the Language of Physical Science' (1988b); 'New Ways of Meaning' (1990b); 'Language in School' (1986c); and papers by Halliday and Martin in *Writing Science* (1993).

Halliday's account is of course simply one interpretation of semohistory. As such, certain aspects will be open to challenge. There is widespread agreement however regarding the drift towards nominalisation of the English language over time (Lees 1963, Wonderly 1968, Cotterell 1978, Chafe 1982; 1985, among others), particularly in the realm of science. What Halliday has done is to link this trend with the notion of grammatical metaphor and the way in which this makes possible certain modes of scientific reasoning.

In tracing the phylogenetic history of grammatical metaphor, Halliday (1990b) identifies as significant the shift from hunting and gathering to settled communities of farmers. It was in this period that we see the beginnings of the written mode. The significance of this shift is in the way in which the grammar of the written medium came to reflect the concerns of agrarian and trading societies. Writing functioned to itemise commodities, to arrange these commodities in lists, to assign qualities and quantities to them, and to organise them into taxonomies.

From 550 BC onwards, Halliday distinguishes two lexicogrammatical resources in particular as playing a major part in the construction of scientific discourse of ancient Greece. Firstly, the nominal group assumed pre-eminence, with the sciences of mathematics and astronomy requiring highly elaborated nominal group structures, formed by the iterative embedding of qualifying phrases and clauses, making it possible to specify detailed measurements. And secondly, the science of the ancient Greeks required a technicalising of the language in order to create abstract entities which went beyond outward appearance to include properties and principles and in order to establish principled, systematic relationships between phenomena in the form of hyponymic and meronymic taxonomies (Halliday 1991b). There was an explosion of abstract nouns formed from verbs and from adjectives, creating a semiotic world of 'things' rather than happenings (Halliday 1991b; 1987b).

While both these new ways of construing experience are significant in the subsequent drift towards the nominal, it is the latter which is of greater interest in terms of the evolution of grammatical metaphor. There already existed in the grammar of the ancient Ionians the resources to transcategorise verbs and adjectives into nouns through a small group of suffixes. These were deployed in the creation of a technical terminology, including nominalisations of processes (e.g. 'movement'), abstractions (e.g. 'distance') and products (e.g. 'momentum') (Halliday 1991b; Halliday & Martin 1993).

According to Halliday (1993), these new concepts provided resources for reasoning with and became the basis of what we now recognise as 'western science'. The characteristic mathematical and scientific discourse of classical and Alexandrian Greek was replicated by the Romans, evolving gradually into its medieval form.

It is in the works of Chaucer that Halliday (1988b) identifies developments in the English language towards more heavily nominalised discourse. These developments occur within the context of Chaucer's explanation in 1391 of the workings of the 'astrolabe'. Halliday describes Chaucer's essay as 'proto-scientific' with its extended

nominal groups with recursive embeddings and its mixture of technical nouns naming parts of the astrolabe and abstract terms for geometric and mathematical concepts and for the mode of reasoning employed.

With Chaucer's shift towards the nominal, the relational clause starts to carry the main burden of the argument, both in terms of its attributive function (assigning properties which are significant for the argument) and its identifying function (assigning things to classes, setting up definitions, and establishing an internal relationship between two steps in the argument) (Halliday 1991b).

It is in the Renaissance, however, that Halliday (1989) locates the birth of scientific English, with Newton's *Treatise on Opticks* in 1704. Newton's work is seen as moving away from a primarily taxonomic approach to the development of scientific experimentation, laws and predictions (Halliday & Matthiessen (in press)). Newton's discourse of scientific experimentation demanded a restructuring of the meaning potential of English, enabling the packaging of complex sequences of text in order to 'form a single element in a subsequent semantic configuration' (Halliday 1993, p.15). His written language betrays a shifting between more 'spoken' and more 'written' modes depending on the stage of the discourse: in the description of experiments we find intricate clause complexes typical of spoken language, with very little use of grammatical metaphor; when the text moves to argumentation and conclusions based on the results of the experiment, there are less intricate clause complexes but a growing use of grammatical metaphor to further the line of reasoning; and in the mathematical formulations we encounter the very dense, extended nominal groups with multiple embeddings typical of much of today's written academic prose.

> The text thus follows a complex grammatical dynamic, in which experience is first construed in the form of clauses, as a world of happening which can be experimented with; and then reconstrued in the form of nominals (nouns, nominal groups, nominalisations), as a world of things, symbolically fixed so that they can be observed and measured, reasoned about, and brought to order. (Halliday 1990b, p.19)

The scientific English of Newton displayed the nominalising tendencies of the past, but now with an added dimension. In order to sustain the type of argumentation characteristic of the new science, Newton needed to be able, at critical points, to nominalise whole stretches of complex discourse into a single semiotic entity, either in terms of pulling together the threads of the preceding discussion as a basis for further development of the argument, or of packaging an upcoming line of argumentation which could then be pursued as the text unfolded.

It is here, then, that grammatical metaphor begins to be deployed as a rhetorical strategy in scientific discourse. Once the preceding argument has become nominalised, it can then function as point of departure in the information structure of the clause. In taking up the Theme position in the message, the information is generally presented as 'given' and can be taken for granted. Halliday gives the example of Newton's experiment by which he showed that 'the Light ... that ... emergeth continues ever after to be white'. In order to move the argument on, Newton needs to background this information by creating an entity/ pseudo-thing ('the Whiteness of the emerging Light') which can then assume thematic position in the clause.

At other points in the explanation, Newton needed to introduce a new train of thought to be unravelled in the ensuing text. Again Halliday gives the example of 'a diverging and separation of the heterogeneous Rays ... by means of their unequal Refractions', which Newton foregrounds as 'new' information by placing it at the end of the clause (1989b, p.6).

What is of significance in Newton's writing is not simply the nominalising of processes. This has been occurring already for centuries in the form of transcategorisations and technical terms. Rather it is the distillation of complex stretches of argument in nominal form that is innovative in Newton's discourse:

> ... these nominalisations are not the same as the creation of technical terms by deriving a noun from a verb or adjective, in the manner that had been inherited from the classical languages - even though they arise as a natural extension of the same resource. This new pattern that Newton is developing differs in two ways. In the first place, it is a packaging - one might say a 'compacting' - operation whereby a complex semantic configuration is construed into a single phenomenon. Secondly, the resulting nominalisation is not then incorporated into a standing taxonomy, as part of the register of a particular field of knowledge; it is integrated into the flow of the discourse, as part of the argument - either as background (Given/Theme) or as foreground (Rheme/New) of a particular message. (Halliday 1991b, p.107)

Halliday (1988b) describes a further effect which associated with this type of nominalisation. Once the processes have been thus nominalised, the verbs in the clause begin to take on the role of construing a relationship between the participants in the clause, as exemplified in the following:

> <u>The explosion of gunpowder</u> **arises** therefore from <u>the violent action whereby all the Mixture ... is converted into Fume and Vapour</u>. (p.6)

Here the two nominalised participant-processes - 'the explosion of gunpowder' and 'the violent action ... ' are in a causal relationship. This relationship however is mediated by the verb 'arises' rather than by a consequential conjunction. Here again grammatical metaphor is being employed, with the grammatical category of verb realising the semantics of causality, where congruently a conjunction would be expected.

Newton has brought to prominence a particular grammatical patterning which serves the needs of the newly emerging register of science. The clause type described above - consisting typically of two metaphorical nominalisations linked by a verbal group expressing the logico-semantic relationship between the nominal groups - is seen by Halliday (1991b) as the cornerstone of what we have come to recognise as 'scientific English'. In essence, Newton was

> ... using grammatical metaphors to force the language into increasing its semantic potential at the frontiers where he was working. The grammar was, as always, responding to the pressures of the discourse, which required a form of textual organisation of the clause in which there would be a clear and explicit movement from 'this is where we are' to 'this is where we are going'. (Halliday 1991b, p.117)

Halliday (1988b) proposes that this use of grammatical metaphor is thus becoming an essential resource in the construction of the 'new learning' of the late renaissance. The 'favoured' clause type developed by Newton is taken up with greater vigour by later scholars. Following an example of an 'unpacked' paragraph from Priestley, Halliday (1988b) comments that:

> ... when the happenings are expressed congruently, as verbs ('repel', 'accumulate', 'attract'), the discourse patterning is lost; we no longer have the appropriate thematic and informational movement, the periodicity of backgrounding and foregrounding. The metaphorical variant, by using nouns, gives these processes an explicit value with respect to each other in the temporal progression of the discourse; and by a further metaphor uses verbs to construct their semantic interdependency: 'occasion', 'is owing to', 'is produced by'. The whole configuration is an immensely powerful resource for the semiotic construction of reality. (p.14)

The verbalisation of semantic relations continues apace in this period, with verbs coming to express, in addition to causality, most of the other major categories of expansion. In the mid nineteenth century, there is already a considerable number of these verbs being employed:

- expressing external relations of the 'enhancing' type (cause, time, condition and manner)
- expressing relationships of the 'extending' type (additive, replacive, adversative)
- expressing relationships of the 'elaborating' type (expounding, exemplifying, clarifying)
- expressing cause together with a special effect that is being brought about
- expressing that the process referred to takes place (Halliday 1991b, p.129)

In a further metaphorical step, these verbs themselves become nominalised: 'the occurrence of ...'; 'the cause of ...'; the proof of ...'; 'the suggestion that ...'; and so on. Halliday quotes a text from Priestley (1733), where the congruent clause 'the particles of fluid are repelled by one another' is transformed subsequently into 'the mutual repulsion of the particles of fluid', summarising what had gone before and acting as a stepping-off point for some further information. In this example, the verb 'repel' has become the noun 'repulsion'; 'the particles of fluid', previously a full participant in the process, has become Qualifier inside the nominal group of which 'repulsion' is the Head; and 'one another' has become 'mutual' - a Classifier in the same nominal group (Halliday 1991b; 1986d). The verb in the clause no longer functions to signify a causal relation between the nominalised processes. Now the entire semantic content of the clause has been taken over into the nominal groups, leaving the verbal group simply to assert that the process has taken place ('the mutual repulsion is exerted...').

We thus find the evolution of the following pattern:

X happens; so Y happens
because X happens, Y happens
that X happens causes Y to happen
happening X causes happening Y
happening X is the cause of happening Y (Halliday 1991b, p.132)

Halliday (1989b) illustrates this development by taking a sentence written by Dalton, published in 1827, which displays the 'signature of a particular semantic style characteristic of a particular period':

> Hence increase of temperature, at the same time as on one account it increases the absolute quantity of heat in an elastic fluid, diminishes the quantity on another account by an increase of pressure.

Here we have the 'happening X causes happening Y' pattern typical of the era. It is already heavily nominalised (quantity of heat ['how hot?']; increase of temperature ['become hotter']; increase of pressure ['become more forceful']). These nominalisations are causally related, but the relationship is realised through a verbalisation: increases ['cause to become greater] and diminishes ['causing to become less'. Halliday (1989b) thus pinpoints the phylogenetic status of this text as falling 'somewhere between an earlier semantic style in which temperature would have been nominalised in this way but not increase of temperature, and a later style in which increases would more probably have been causes an increase (later still: is the cause of an increase)' (p.5).

To summarise these developments in the words of Halliday (1991b): 'By the end of the nineteenth century, English scientific writing was committed to a highly nominalised style based on grammatical metaphor of various kinds' (p.132). The grammatical processes that took place under the pressure of the new experimental paradigm resulted in the evolution of new rhetorical forms which enabled the codifying, dissemination and extension of scientific knowledge (Halliday 1991b).

While this account has concentrated on the language of science in the written mode, Halliday claims that it is possible to generalise this phenomenon to other registers and to the oral language. Although we can identify a distinct scientific register, the boundaries of this register are permeable and many of the lexicogrammatical patterns characteristic of scientific reasoning have subsequently 'spilled over' into other discourses, taking over as model and as norm - 'the language of science has become the language of literacy' (Halliday 1993, p.7). Similarly, while grammatical metaphor is found more typically in the written mode, it is often encountered in particular spoken registers, notably the discourses of power and prestige such as politics, bureaucracy, academia and the law.

This discussion of phylogenesis raises important questions which will be pursued further in subsequent chapters, particularly in terms of the distinction between transcategorisation, technicality and metaphor, and the rhetorical force of grammatical metaphor.

CHAPTER 6

THE ONTOGENETIC GROWTH OF GRAMMATICAL METAPHOR

Having looked at the evolution of grammatical metaphor from a phylogenetic perspective, this chapter will move on to discuss the ontogenetic growth of experiential grammatical metaphor. The developing use of grammatical metaphor over the period of early and later childhood and into adolescence in the life of an individual child has not previously been documented. This chapter, therefore, is a substantial one, both in terms of length and in terms of its potential contribution to systemic theory. The discussion will be based on findings from the data, and will trace development in terms of what might be seen as precursors of grammatical metaphor, to protometaphorical forms, through to increasingly complex, more abstract types.

As noted earlier, this part of the study will concern itself only with the growth of experiential grammatical metaphor. Using the taxonomy of grammatical metaphor developed in Chapter 4, an analysis of all the core written data was undertaken. Instances of different types of grammatical metaphor were identified, ordered chronologically from the earliest instances through to the end of data collection at age 14, and then categorised according to the taxonomic categories in order to ascertain ontological trends in the development of different types of grammatical metaphor. This analysis enables us to confirm or disconfirm Halliday's hypothesis that grammatical metaphor is a feature of later childhood/ adolescence. It also allows for a comparison between the growth of different types of metaphor.

The following figure gives an overview of the areas to be discussed, beginning with Halliday's notion of 'gateways' (see Chapter 3) before moving to grammatical metaphor 'proper'.

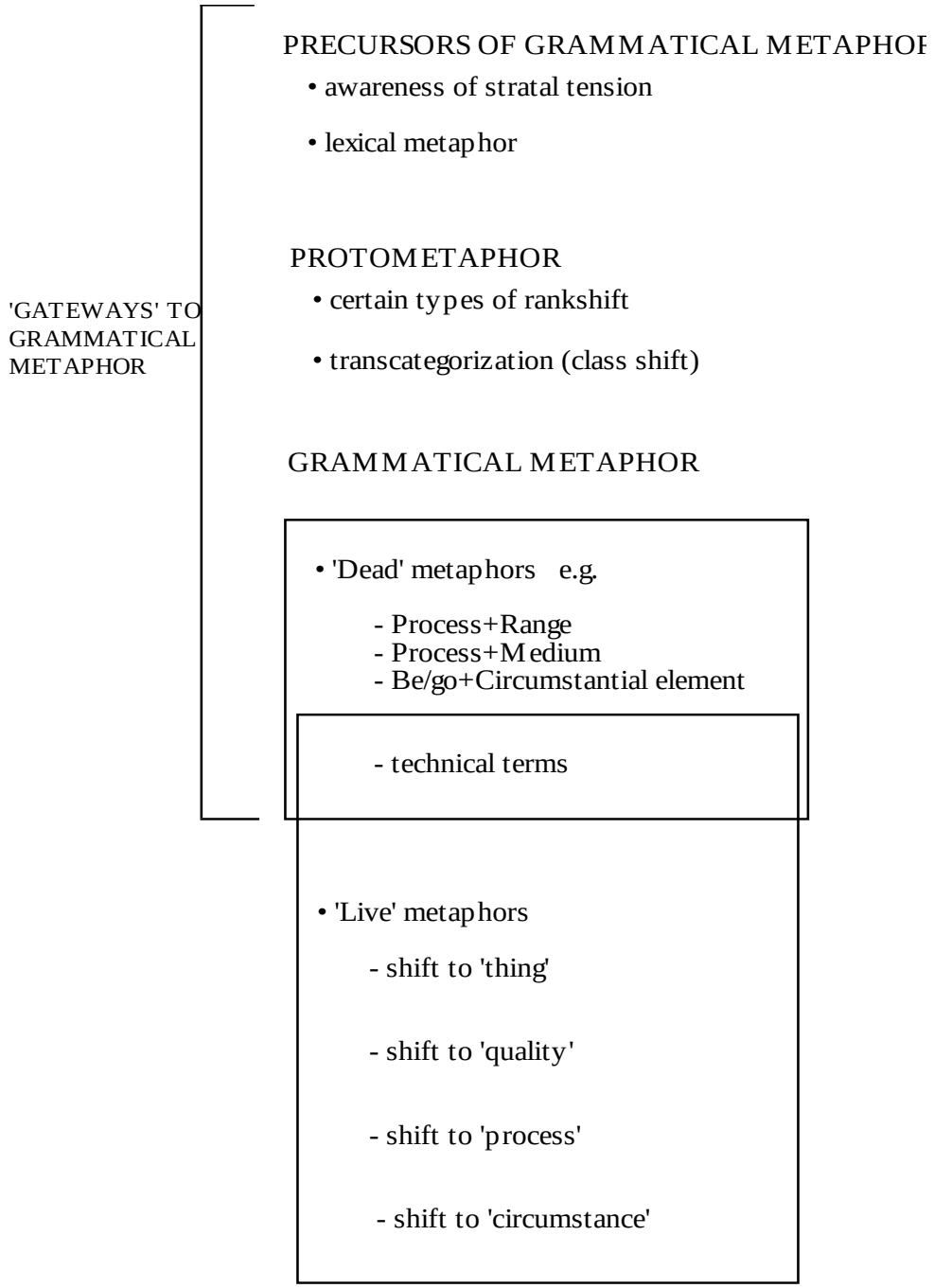

Figure 6.1 Aspects of experiential grammatical metaphor identified in the data analysis

6.1 GATEWAYS TO GRAMMATICAL METAPHOR

Halliday (p.c.) suggests that it is the development of interpersonal grammatical metaphor which acts as a 'gateway' for experiential grammatical metaphor, providing children with experience of metaphorical modes of expression in oral, interactional contexts which provide a 'model' for the later development of experiential metaphor, typically in written contexts. While this is certainly a plausible explanation, we might also speculate on other possible gateways to the development of grammatical metaphor.

This chapter will begin by looking at certain semantic strategies which do not themselves involve the use of grammatical metaphor, but which encourage the playful 'unhingeing' of the semantics and the lexicogrammar. These could be seen as precursors to grammatical metaphor.

The chapter will then consider the role of certain linguistic strategies - transcategorisation and particular types of rankshifting - which closely resemble grammatical metaphor and which, in fact, are often mistaken for grammatical metaphor. These strategies are phylogenetically prior to grammatical metaphor, and it will be argued that they could be seen as protometaphorical in the child's language development.

6.1.1 Precursors of grammatical metaphor

(i) Playing with interstratal relationships

In early childhood, children start to play around with language, exploiting its potential for mismatches between perceived reality and linguistic expression. This complex manipulation of the relationship between the lexicogrammatical and semantic strata might be seen as a 'gateway' to grammatical metaphor.

Humour, no longer restricted to visual images such as face-pulling and slapstick, can now be achieved through linguistic means. Puns, for example, are early instances of the child learning to recognise the stratal tension between the semantics and the lexicogrammar. While Reich (1986) identifies the ability to make up puns on the spot as emerging around

puberty, the present study includes numerous examples of this occurring from early childhood:

N. What's the black part of your eye called?
S. The film.
M. The iris, isn't it?
N. Oh it must smell good. *(giggle)* *[age 8]*

M. See if there are any pickles in the fridge.
S. But mum I don't like being stung by them. *['prickles']*
Anyway, they're outside. *[age 8]*

N. Have Bill and Rose got a daughter?
M. Yes, Rosemary.
N. She must smell nice. Get the joke? Rosemary! *[age 8]*

M. Where would you like to hang the fan?
N. This is a silly suggestion, but it might be cool .... get it? .... cool 'excellent' and cool 'like a breeze'. *[age 8]*

N. If she said 'bark', where's the tree? *[age 9]*

M. *(Picking up a box)* It's very light.
N. No, the light's not on. That's a pun. That's very punny. *[age 9]*

D. Would you get me another tissue? I just dropped one.
N. I didn't smell anything! He just dropped one. *[age 9]*

N. I said 'Do you want me to wring your neck?' and Stef said 'I'll go get the telephone.' *[age 9]*

N. What creatures are bred (bread)?
M. I don't know.
N. Crustaceans!
M. Who told you that?
N. I made it up. *[age 9]*

Similes also give scope for discovering alternative relationships between semantics and lexicogrammar :

(In the car, explaining 'high beam' to his brother)
N. On low beam the light is all spread out but on high beam it is thick, it has texture. It's **like plasticine** - on low beam it's **like plasticine all spread out** but on high beam it's **like when you roll out the plasticine** into a long shape like a snake so it all goes forward instead of to the sides. *[age 8]*

Nick's writing[1] reveals a growing use of similes, particularly in the writing of narratives:

Miss Egan was so angry she shot up **like a rocket**, right through the roof and to the moon. *[age 6]*

Now I had to go and get handshakes and sloppy kisses and hugs

[1] In word processing the data, Nick's original spelling and punctuation have been retained.

At the end of the session it felt
like my hand had gone under a bulldozer track
and I had fallen into a pot of slime. *[age 12]*

Peter longed for some air
as his lungs were pierced with a sharp pain **like a dagger through his back.** *[age 12]*

but it was breathable and warm **like a spring day.** *[age 12]*

This I could tell by her silky white ponytail
which was flying around **like a lawn-mower blade going back and forth, back and forth every time she turned her head.** *[age 12]*

When we are finished with an area
it looks rather **like a bombed battlefield.** *[age 12]*

and they disappeared **like rats into the subways.**
Then huge cleaning machines **like space robots** took over *[age 12]*

blowing trees over trees
as though they were matchsticks. *[age 12]*

The battle takes place
like two children fighting over a toy. *[age 12]*

The use of sarcasm could be seen as another instance of the tension between the meaning and expression:

M. Thankyou Nick *(sarcastic)* - that's very annoying.
N. She said 'thankyou'. *(Recognises the sarcasm but insists on the literal) [age 9]*

Even in the telling of lies the child sees that it is possible to construct an alternative reality linguistically. The following example demonstrates a conscious awareness of what is involved in lying:

N. Mum, this is a lie - 'Let's not and say we did'. Like if Mr. O. *[teacher]* tells us to do something and we say let's not but say we did. *[age 9]*

(ii) Lexical metaphor

In particular, the child's growing awareness of metaphorical modes of expression could be seen as a precursor to grammatical metaphor. In its classical sense, metaphor refers to lexical metaphor, where a particular lexeme is said to have both a 'literal' and a 'transferred' meaning. Grammatical metaphor is similar to lexical metaphor inasmuch as both phenomena involve a semantic category which can be realised congruently or metaphorically. In the case of grammatical metaphor, however, what is varied in not the

lexis but the grammar. The following instances demonstrate early recognition of the nature of metaphor.

(Eating an orange):
N. Look at those scaley things. I know what the scientists would call it - 'flesh of the orange'. *[age 8]*

(Tending a blister):
N. Mum, we should have called blisters 'everlasting teardrops' *[age 8]*

(Eating lunch outside):
M. It's a bit windy out here.
N. I think it's the gods having a flatulence. *[age 8]*

(Editing homework)
N. You know how a comma means 'have a rest'. Well, 'let's comma' means 'let's have a rest'. *[age 9]*

N. Dad, I know what the Milky Way is - a planet prison. *[age 9]*

N. I couldn't have driven you up the wall. I don't have a car. *[age 9]*

N. I know what 'callous' means. You know how you have a callous on your foot and it's hard - a callous person is a hard person. *[age 9]*

(The television program 'Rubbery Figures' had Justice Murphy pronouncing sentence on Wran from 'The Highest Court'):

N. I get it - cause Murphy's dead - so he's up there. *[age 10]*

Lexical metaphors can range from 'faded' to 'innovative'. In his later writing (age 9 onwards) Nick uses a variety of both conventional and original metaphors:

The Europeans **used China as a supermarket**
quietly **pickpocketing the land.**
The Dutch, the British, the Spanish and the Americans all **looted** China. *[age 9]*

My journey through Chinese history began with a trip to the spot where Peking Man lived. *[age 9]*

In an hour and a half the fire had **devoured** the remaining shops and half of the newly constructed "handsome" commercial developments *[age 11]*

On the inside she is a timid, self-contained reserved 12 year old girl instead of **the 14 year old general.** *[age 12]*

"You're just **a bag of flesh** holding me up,"
he snarled back. *[age 12]*

In the morning of August 24th 79 A.D. something happened that changed Pompeii forever.
It was hit by **a river of lava**
and covered by **a cloud of ash**
that **rained** pumice.
In the end the whole city was covered up in **a blanket of ash and molten rock.** *[age 13]*

Nick also uses extended metaphors, as in the following poem where the hungry body is represented as a desert landscape:

HUNGER

When I get hungry....
my throat turns dry, as dry as a dessert *[which needs to be]* [2] waiting to be drenched with torrential rains.
[My stomach turns into a bottomless well which rarely gets filled to the brim.
It grumbles
and growls as...]
My stomach is a deep empty well
longing to be satiated,
grumbling
and growling
as all the animals in the well die for food.
My whole body becomes a ghost town without any *[energy or enthusiasm]* life or colour.
[But as soon as my eyes lounge on the food
my body suddenly turns on all energetic
and ready to do anything.]
But then the golden humps of the big M loom on the horizon.
Is it a mirage?
My body lurches towards the suburban oasis.
I dive for the *[drink]* Coke
and *[throw]* slam it down into my mouth.
The desert turns into lush green pastures
and the ghost town turns into *[happy and merry hotel]* a thriving city.
[The more I eat,
the more lush green the pasture becomes
and the more merry the town becomes.] *[age 10]*

Halliday (1975a) describes the development of simile and metaphor as a fundamental semiotic strategy, involving a recognition of likeness between things which are essentially different. We might see the above strategies as part of an emerging awareness of the ability to expand one's meaning potential by 'decoupling' meaning from wording and recoupling them in unexpected ways.

6.1.2 Protometaphor

(i) Transcategorisation as protometaphor

[2] First draft notes in italics

In considering the evolution of grammatical metaphor, Halliday and Matthiessen (in press) distinguish between two superficially similar phenomena - transcategorisation and grammatical metaphor.

Transcategorisation refers to the shifting of a lexeme from one class to another. This could be represented diagrammatically as follows:

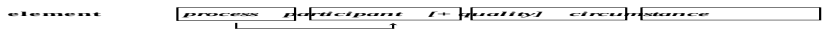

Fig. 6.2 Transcategorisation of elements

Transcategorisation allows for an increase in the lexical stock by transforming nouns into adjectives, verbs into nouns, adjectives into verbs, and so on. Transcategorisation may be effected syntactically, where the 'form' remains the same ('underived') or grammatically through the use of derivational morphemes.

e.g.	noun *flake*	:	verb *flake*
	adjective *awake*	:	verb *awaken*

While grammatical metaphors also make use of derivational morphology, they are different in nature from transcategorisation. When an element is transcategorised, it loses its original status. With grammatical metaphor, however, one element is reconstrued as if it were another, retaining the semantic force of both the elemental categories. In this process the original interpretation is not supplanted; it is combined with the new one into a more complex whole. When a quality or process, for example, is treated metaphorically as a thing, the resultant 'pseudo-thing' embodies a junction of two semantic categories: e.g. 'process thing' or 'quality thing'.

As a probe to distinguish transcategorisations from metaphors, Halliday and Matthiessen (in press) suggest that whereas the interpretation of a transcategorised element is relatively straightforward (*shake* - process; *shaker* ('that which shakes') - thing), when glossing a grammatical metaphor, we tend to use metalanguage which recalls its semantic origins:

shakiness	thing	:	**'quality** of being shaky'
awakening	thing	:	**'process** of being awake'
analysis	thing	:	**'process** of analysing'

A further probe is that grammatical metaphor is 'unpackable' (i.e. as a semantic element, it can be traced back to some role it could play within a higher semantic unit) while a transcategorised element is not.

For example, in the data we find:

(i) In the end, Ray is **the only SURVIVOR**.

(ii) ... the Romans believed in **the SURVIVAL of the dead.**

While both these nouns derive from the verb 'survive', *survivor* cannot be unpacked. It could be glossed as 'one who survives', thereby demonstrating its verbal origins, but it remains simply an element in the same clause:

(i) In the end, Ray is **the only ONE WHO SURVIVES.**

The second example, however, can be unpacked to a ranking clause, with the elements now playing roles in the transitivity structure of the unpacked clause:

(ii) ... the Romans believed

that THE DEAD SURVIVE *[live on]*

Many instances of transcategorisation are often mistaken for grammatical metaphor, and this has been another source of confusion in systemic literature, where this distinction is not always recognised. Whether an expression is metaphorical or not depends on its context of use. The same word may be an example of transcategorisation in one context and an example of grammatical metaphor in another. There are several such cases in the data:

'force'

a) Transcategorised
'**air FORCE pushing the cup**' *[age 8]*
or by using **its natural FORCE** or weight. *[age 10]*
by using **water's natural FORCE** *[age 10]*
but **the FORCE of the sea** overpowered him. *[age 11]*

b) Metaphorical
and the cup will rise from **the FORCE of the air.** *[age 8]*
['and the cup will be forced up by the air']

'change'

a) transcategorised
Then **a chemical CHANGE** occurs *[age 13]*

b) metaphorical
that Raja can sense **this CHANGE** *[age 13]*
['that Raja can sense how things have changed']
Many fires caused **a CHANGE in the building materials.** *[age 13]*
['Building materials changed because of fires']
I will discuss **his CHANGES in his character** in the light of one of the major themes in the play - reasoning and emotion. *[age 13]*
['I will discuss how his character changes ...']

'fight'

a) transcategorised
Gladiator FIGHTS and chariot racing were favourite sports of the Romans *[age 12]*
There were different types of **FIGHTS** held such as Animal vs Man and gladiator vs slaves, gladiator vs gladiator, so on. *[age 12]*
They held **the FIGHTS** mostly at a stadium. *[age 12]*

b) metaphorical
In **a FIGHT of gladiator vs gladiator** the two people have different weapons. *[age 12]*
['When a gladiator fights a gladiator ...']

'work'

a) transcategorised
WORK is a form of supporting your family *[age 12]*
WORK is also a prize *[age 12]*

b) metaphorical
WORK must be done *[age 12]*
['you must work']

'sentence'

a) transcategorised
but during **his SENTENCE** *[age 13]*

b) metaphorical
This is **the SENTENCE which John Irving received** *[age 13]*
['This is how John Irving was sentenced']
This judicious behaviour undoubtedly saved him from **a death SENTENCE**. *[age 13]*
['... from being sentenced to death']

'possession'

a) transcategorised
whose wife had given evidence in court about **the POSESSIONS Bessie had obtained,** *[age 12]*
after carrying **my POSSESSIONS** for what seems like an endless trek. *[age 12]*
to try to find *[draft #1: anything they possesed]* **their POSSESSIONS,** *[age 12]*
and he takes pride in sorting and arranging **his accumulated POSSESSIONS.** *[age 13]*

b) metaphorical

She was sent to gaol for **the POSESSION of stolen goods.** *[age 12]*
['... because she possessed stolen goods']

'administration'

to investigate **Macquarie's ADMINISTRATION**. *[age 13]*
[depending on the co-text, this could be an example of either transcategorisation ('administration' as an institution') or metaphor ('how Macquarie administered the colony')]

Halliday and Matthiessen (in press) maintain that there is no sharp line between deriving a thing from a process (transcategorisation) and construing a process as a thing (grammatical metaphor), and in fact Halliday (p.c.) suggests that transcategorisation could be seen, both phylogenetically and ontogenetically, as protometaphorical. In this sense, transcategorisation is of interest to this study inasmuch as it might function (as in the case of the tropes above) to provide a precursor/ gateway to grammatical metaphor per se.

In the present data, transcategorisation is present even in the earlier written texts and there is a trend towards increasing use of transcategorised elements over the years, with a significant increase around age 9.

(ii) Rankshifted embeddings as protometaphor

Another phenomenon which serves to increase the grammatical potential is 'rankshifting', a mechanism whereby ‘a unit may come to serve to realise an element of a unit of the same rank or of a lower rank’ (Matthiessen 1992a, p.17). But just as the relationship between grammatical metaphor and transcategorisation is often the source of some confusion, so too is the relationship between grammatical metaphor and the notion of rankshifting. In her thesis dissertation, Ravelli (1985) states that 'Rankshift has been interpreted here as metaphorical' on the grounds that 'a meaning (or meanings) which may be realised congruently as a clause is realised metaphorically as a participant of the clause' (p.86). Similarly, Painter (1992b) claims that Halliday treats rankshift as one kind of grammatical metaphor, providing examples of embedded defining clauses from her data such as 'the stuff **off the red ball**' and 'Where's the thing **go in there**?' (p.29). She also suggests that embedded 'fact' clauses are metaphorical, as in 'Balance means **you hold it on your fingers and it doesn't go on the floor**', where the rankshifted clause complex functioning as Value can be construed simultaneously as an event and as a participant (1992a, notes). Jones (1988) also included rankshifted clauses in her taxonomy of types of grammatical

metaphor. In Halliday and Matthiessen (in press), however, we find an apparent contradiction of these interpretations - 'Rank shift is not inherently metaphorical' (p.201) They continue that, while both transcategorisation and rankshift could, in origin, be described as metaphorical semogenic processes through a shift in class or a shift in rank, neither necessarily involves metaphor.

In clarification, Matthiessen (1992a) explains that certain effects of rankshift involve grammatical metaphor while others are non-metaphorical. Most instances of grammatical metaphor, in fact, do involve rankshift, where units are 'construed not only according to their own location in the system but also as if they were units with a different location in the system' (e.g. a clause construed not only as a clause but also metaphorically as a nominal group - *the gas expanded so the container exploded > the expansion of the gas caused the explosion of the container*). However, rankshift which results in embeddings is considered to be not metaphorical, but simply the translocating of a unit from one rank to another. These embeddings can be either in the form of (i) defining relative clauses (*the place* ***where angels fear to tread***) or (ii) a clause functioning as the Head of a nominal or adverbial group (*I bumped into* ***what looked like an ant-hill***; ***where angels fear to tread*** *is where I want to be*).

Painter and Ravelli's characterisation of rankshifting *per se* as being metaphorical, however, was tempered with a note of caution. Ravelli (1985) described certain rankshifted embeddings as having lost much of their metaphorical status. This would seem to fit with Halliday's assessment of rankshift as a metaphorical semogenic process in origin. And Painter (1992a) recognised that examples of rankshifted embeddings from her data 'hardly qualified as the kind of abstraction characterised by adult grammatically-metaphorical language'. Nevertheless, Painter argues that these uses of rankshifting may serve as an entry-point to more abstract language as far as the child in concerned, 'in that the structure itself is in a sense 'incongruent' because it violates the canonical constituency pattern whereby larger units are made of smaller (lower rank) units' (p.30).

On the grounds that such embeddings may originally have been metaphorical, and following Painter's suggestion that they may serve as a 'gateway' to further abstraction, we might consider rankshifted embeddings to be 'protometaphorical' in the same way as transcategorisation was treated above.

In Nick's early writing, we find a sprinkling of embedded clauses:

YEAR 1 [age 5]

Instead we panted on a role of paper *[the things]* **that might happen in the future.**

YEAR 2 [age 6]

The first thing **he did** is he gave me six injections to stop the pain
to go to a place **were theye were seling books**.
to thank her for the spicel doller coin **which she gave me**
and I likede the letter **that you gave me**
The funiste story **you'v ever heard**
and the Grand prix was filled with people **waiting**.
equipment **you'll need**. Metal wood skinny wood wide and strong nails and staples
In 1839 MacMillan invented pedal's **which went back and forth**.
It was time **for me to go to bed**.
I had anufe money **to bye a book**.
"Dad ... d.a.d DAD!! **What I really want** is a story."
he had just thought of **what he was going to make for the Grand prix. The *[that]* was on in 4 months time.**
and started to do the drawing of **what he had thought of last night.**

YEAR 3 [age 7]

Our class had a race with our boats **that we made out off paper.**
We made two boats one **wich Tom showed us one**
Well it's a elleven ships **that sail together.**
The oasis is a place **were camel cravans come**
and drink water
or camp there.
He was the first **to land.**

YEAR 4 [age 8]

then put the end of it on the terminal **wich hasn't got the sticky tape**
The person **standing** should point out his arms level with his shoulders.
A boy **named John Reagan** started it of
Every time **we come home** Max is waiting
And I also don't want highways **going through the town like the ones up in Sydney.**
until it was time **to go.**

But again at age 9, we find an enormous increase in the incidence of embedded clauses with 123 instances. Even conceding that in this year, Nick wrote more than in previous years, the ratio of clauses written to instances of embedded clauses is still significantly high. This trend is continued at age 10, with 212 instances of embedded clauses found in the data.

6.2 'FADED' METAPHORS

Having looked at various possible precursors of grammatical metaphor, let us now turn to variants of grammatical metaphor 'proper'. As with lexical metaphor, grammatical metaphor can be ranged along a continuum from 'dead' to 'original'. There is no clear line, however, between moribund and living metaphors. As soon as an original metaphor appears and starts to become institutionalised, it begins to lose its power to call up ideas which the words once expressed (Hegel, cited in Cooper 1986). In this study, the term 'faded' will be used (after Derrida) to refer to instances which were in origin metaphorical but which have since become established as the norm.

In terms of the linguistic development of the individual, we can also observe the difference between faded metaphors which are simply 'picked up' from constant exposure and unconsciously replicated and those which involve the more deliberate construction of an 'original' metaphor. While the former play an important role in modelling the nature of grammatical metaphor for the child, the latter serve as evidence of the child's motivated use of metaphor. These 'fresh' metaphors often take the form of a 'clumsy' or 'self-conscious' construction as the child grapples creatively with the phenomenon. Even at age 16, we find Nick writing that

> ... in the interim Martha and George continue their roles of hosting the party with **an INCREASEMENT of friction between them**.

The pressure to metaphorise has led to an over-reaching, resulting in the awkward 'increasement'. In the data, this tends to occur more frequently in the spoken mode, as both boys experiment with what they see as 'adult' language. Stefan, for example, in an attempt to demonstrate his expertise as he explains the workings of a computer monitor, states that:

> It shuts itself off after **a period of STOPNESS**. [age 14]

He obviously had a feel for the sort of language required, but could not yet come up with a stock phrase such as 'a period of inactivity'. Such examples would appear to have greater significance in describing the child's coming to terms with grammatical metaphor.

There are many instances in English that are in origin metaphorical[3] but which have long since lost all sense of their metaphoric nature.

> Much of the history of every language is a history of demetaphorising: of expressions which began as metaphors gradually losing their metaphorical character. (Halliday 1985a, p.327)

The following section will consider a few instances of 'domesticated' metaphors and argue that in a study of the ontogenetic development of grammatical metaphor in the child, it might be useful to include such cases in the discussion, even though these would normally be discounted as metaphorical in the writing of an adult.

6.2.1 Process+Range

Perhaps the most widespread use of grammatical metaphor is the Process+Range construction, where what would be represented congruently as a process (e.g. *dance*) is represented metaphorically as the Range (e.g. *do* ***a dance***) together with a lexically empty verb.

e.g.

congruent	**metaphorical**
dine	have dinner
err	make a mistake
bathe	take a bath

Table 6.1: Process+Range constructions

Phylogenetically, expressions such as ‘gave a nod’ and ‘made a noise’ have taken over from the earlier ‘nod’ and ‘sound’ (Halliday 1990b). These constructions have become entrenched to the extent that they are generally no longer considered to be live metaphors. For the purposes of this study, however, they are worthy of mention inasmuch as they are

[3] e.g. many uses of the possessive form, such as *the* ***champion's*** *defeat by the newcomer* (Halliday & Matthiessen (in press) p.199) ; the shift from Attribute to Epithet as in *her eyes are* ***brown*** *=> she has* ***brown*** *eyes* (Halliday 1985a, p.327; 1990b, p.16)

found in everyday spoken language and occur from a very early age. They could thus be usefully regarded as 'models' of grammatical metaphor, providing early experience of the phenomenon of metaphor without requiring conscious manipulation on the part of the child. In particular, the Process+Range construction models one of the most significant features of grammatical metaphor - the way in which the nominalising of the process makes available the potential of the nominal group through modification. Nick's earliest use of the Process+Range construction in his writing demonstrates precisely this point:

> We also went for **a bush WALK** and **horse RIDING**.

Congruently, Nick could have written something like:

> We also went walking in the bush and we rode horses.

In choosing the Process+Range construction of 'go + a walk', 'go + a ride', where the processes 'walk' and 'ride' have now become nouns ('walk' and 'riding') accompanied by the general verb 'go', he was able to build up the nominal group through the use of classifiers (*a **bush** walk and **horse** riding*). In this way he is developing a strategy typical of the written language he will need to produce in later years.

While this construction has become the unmarked form of encoding these particular types of process, the congruent forms do exist in the language, so the use of an incongruent form does represent a choice, albeit an unmarked one (Halliday 1985a). In analysing the data, therefore, Process+Range constructions have been counted as metaphorical whenever a plausible non-metaphorical alternative was available but not chosen, particularly when the choice is motivated by such factors as exploiting the nominal group. Thus, Nick writes:

> The pilot aged 20 from Clare in South Australia **was doing a cross-country training flight**. *[age 11]*

rather than the possible, but more awkward, congruent alternative:

> The pilot aged 20 from Clare in South Australia **was flying cross-country for training.**

The following is a typical sample of the Process+Range constructions found in Nick's texts:

> One day in 1888 A Ship **had a CRASH** at the reef near queensland. [age 7]
>
> The knights are going to **have a BATTLE** [age 8]
>
> The audience can see the actor(s) **doing the PERFORMANCE** [age 9]
> **Have weekly MEETINGS** with the director [age 9]

so that we would not **make any MISTAKES** on the opening night. [age 9]
That was when we started to bring home scripts and **do PRACTICE**. [age 9]
The Theme on instructions has **bought** me **great PLEASURE** [age 9]

today we YR6 **did an EXPERIMENT**. [age 10]
As all the prime ministers from every country were **having a MEETING** [age 10]
as he was **doing an illegal ACT** at the time. [age 10]
but he wasn't allowed to do anything that would **make a public DISTURBANCE** [age 10]
and in case the female whale **had an early BIRTH**. [age 10]
to **make a 15 month JOURNEY** to venus [age 10]
The Magelene satelite was launched five minutes before the deadline in which they would **have a WAIT** of two years. [age 10]
and **came to the CONCLUSION** that Ned Kelly was treated unfairly [age 10]

all **went for a ROW** in a flat bottomed punt, except for one of the Honey's daughters. [age 11]
and we even had Ashtons Circus **do a TOUR** of the area [age 11]
He **took one deep BREATH** [age 11]
We **had a scrumptious LUNCH** of vegetable soup consisting of carrots, beans, spinach - all from my garden - followed by a meat pie and a dessert of home made caramel fudge. [age 11]
They each **had the same last MEAL**. [age 11]
he **did no manuel WORK**. [age 11]
There were a few new athletes who **made great IMPRESSIONS on the officials** [age 11]

but **did most RESEARCH** in India. [age 12]
to **do a bit of FISHING** on the Toutle river. [age 12]
that he **has TERROR** [age 12]
We had to **do a special RAID** of a drug store. [age 12]
and **took a little WALK.** [age 12]
In 1891, E Dubois **made a startling DISCOVERY** [age 12]

Soon Martin Cash started **making secret VISITS** to her [age 13]
and most of them are starting to **have a bit of TRUST** in me even Ranee [age 13]
Meanwhile, the other character in the sub-story, Willis Joe, has been **leading a very boring, self-centred LIFE.** [age 13]
he **made one of the most notable REFORMS ever.** [age 13]
Irving **had an untimely DEATH** on 3rd September, 1795. [age 13]

6.2.2 Process+Medium

Similarly, certain collocations of Process+Medium involve grammatical metaphor, such as where the congruent process is coded metaphorically as Medium and the metaphorical process is realised by a general verb such as *give, extend,* or *lend* (Matthiessen 1992a).

e.g.

congruent	**metaphorical**

hug support help	give a hug lend some support extend help

Table 6.2: Process+ Medium constructions

Like Process+Range constructions, this strategy opens up the potential of the nominal group. In addition, it performs a textual function of organising the clause in such a way that the lexical content of the verb follows the Medium.

Process+Medium collocations have become fully codified in English and are now the unmarked form in everyday conversation, the congruent variant generally being reserved for more formal discourse. While they are technically metaphorical, they have become somewhat demetaphorised. Nevertheless, as with Process+Range, they will be analysed as metaphorical where appropriate for the purposes of this study.

The instances of Process+Medium in the data are relatively few, the following being typical:

to **give** us **a warm GREETING** [age 8]

The reason that music is used is to help make singing nicer and to **give a BACK UP** in a musical production. [age 9]

This kind of paper was **given the NAME** of a Papyrus Scroll. [age 10]
It starts with Albert Jenkins about to **receive a BELTING** [age 10]
as though he hadn't **received the PUNISHMENT**. [age 10]
because << not only is it getting dried >> it is also **giving** it **a final ROLL**. [age 10]

Now I had to go and **get HANDSHAKES** and **SLOPPY KISSES and HUGS** [age 11]

and that she hadn't **given any SUPPORT** to her during the break up. [age 12]
and doesn't **give any SUPPORT** [age 12]
but do not **give a CARE** to the people that fought and were affected. [age 12]
and **gave CHASE** [age 12]

Sitting into my seat **gave** me **complete SATISFACTION** that I had bought the right car, [age 13]

6.2.3 *Be/go* +Circumstantial element

While the above categories of grammatical metaphor are found in the speech of young children, Halliday identifies another category found in the written language of the primary school. Rather than use the congruent *be* or *go* with a circumstantial element, a simple verb is used.

e.g.

congruent	**metaphorical**
be about	concern
be instead of	replace
be like	resemble
go with	accompany

Table 6.3: *Be/go*+Circumstantial element

Halliday and Matthiessen (in press) see these as intermediate between the commonsense language of daily life in the home and the technicalised educational discourse of the secondary school.

Examples from the data include:

Emerging from the subway station, [age 12]
Then suddenly the crowd **dispersed**. [age 12]
as the air pressure **decreases** [age 12]
and the general **retreats**. [age 12]
But his scrawny old uncle Ebenezer **occupies** the inn that David is to inherit - the House of Shaws [age 12]
Absconding a second time [age 13]
after I had **recovered** [age 13]
This further **increased** over the next five years to 5 churches a week. [age 13]
because everything **revolves** around him: [age 13]
Antonio **regains** some dignity, control, [age 13]

6.2.4 Technical terms

One of the functions of technicality is to distill or condense, and this distillation often involves the use of grammatical metaphor.

> Martin has shown that it would in fact be impossible to construct technical knowledge without grammatical metaphor. (Halliday & Matthiessen (in press) p.209)

In the creation of a technical term, the notion is defined precisely and unambiguously and taxonomised so that it is no room for interpretation. In the process, any stratal tension inherent in the original metaphor disappears and the metaphor is no longer 'in play'. Technical terms, therefore, are generally not analysed as being metaphorical.

As with the above examples of other 'dead' metaphors, however, there is a case in this study for including them in the analysis. Phylogenetically it is often difficult to ascertain the extent to which a technical term has become sufficiently institutionalised to warrant nailing down its coffin. Ontogenetically it is even less clear. While the child is still in the process of defining the parameters of the term and locating it in a relevant field-specific taxonomy, the technical term is still open to ambiguity and 'fuzzy edges'. In this sense, the grammatical metaphor is still in play. For this reason, any technical term which is perceived to be not yet fully under control will be included, while others which are obviously well established will be omitted from the analysis. There is, however, no clearcut way of determining the status of the technical term in relation to the child's grasp of the underlying concept, so the analysis will have to rely on such factors as the accuracy with which the term is used, the child's familiarity with the field, any signs of 'awkward' use of the term, or the coining of 'idiosyncratic' technical terms. The relationship between grammatical metaphor and technicality will be discussed further in the following chapter.

6.3 'LIVE' METAPHORS

Having discussed those 'para-metaphorical' categories which are of interest to the present study, the following sections will deal with the classification and analysis of the principal types of grammatical metaphor 'proper' as found in Nick's texts.

Grammatical metaphor typically occurs as a 'syndrome' of features between which there is a high degree of interdependence. Generally, the metaphorising of one element creates a situation which necessitates the metaphorising of related elements.

> e.g. On **Macquarie's ARRIVAL in England** he was already a thing of the past.

A congruent version of this could have been:

> When Macquarie arrived in England ....

However, with the nominalising of 'arrived' to 'arrival', an implication sequence is set in train with 'Macquarie' no longer an Actor but a Possessor in the nominal group, and 'in England' changing from a Circumstance to a Post-modifier.

In the analysis, each such syndrome will be counted as one instance of metaphor, even though several different metaphorical effects could be identified within the one syndrome.

There are cases, however, where discrete metaphors are to be found within a syndrome. These will be counted as separate instances.

Following Halliday & Matthiessen (in press), the types of metaphor will be organised in terms of the metafunctional effect of the metaphor. There are thus four major groupings of experiential metaphor:

I. shift to 'thing'
II. shift to 'quality'
III. shift to 'process'
IV. shift to 'circumstance'

Within each of these major groups, there will be a number of sub-groups, according to the nature of the semantic junction (e.g. quality : thing).

6.3.2 I. SHIFT TO 'THING'

By far the largest group of metaphors is that which construes other elements as 'things'. As indicated in the taxonomy outlined in Chapter 4, this group can be further subdivided, giving a fuller picture of the nature of this type of metaphor:

#	semantic shift	class shift	example
Ia	quality > quality : thing	adjective > noun	unstable > instability

Ib	process > process : thing (i) 'doing' process > 'doing' process : thing (ii) 'sensing' process > 'sensing' process : thing (iii) 'saying' process > 'saying' process : thing (iv) 'relating' process > 'relating' process : thing	verb > noun verb > noun verb > noun verb > noun verb > noun	 transform > transformation imagine > imagining declare > declaration has > ownership
Ic	phase of process > phase of process : thing	tense > noun	going to > prospect
Id	conation > conation : thing	phase > noun	try to > attempt
Ie	modality of process > modality of process : thing	modal > noun	can > possibility; may/must > permission/ necessity
If	circumstance > circumstance : thing minor process > minor process : thing	adverbial group/prep.phrase > noun preposition > noun	'how quickly?' > rate [of growth] with > accompaniment
Ig	process + circumstance > process + circumstance : thing	verb+adverb/prep.phrase > noun	move in circle > revolution
Ih	relator > relator : thing	conjunction > noun	so > cause, proof

Table 6.4: Shift to 'thing'

The corpus has been analysed to determine the number of instances of each of these sub-types according to age. The percentage of instances per number of clauses has been calculated for each sub-type.

Ia quality : thing

I a	quality > quality : thing	adjective > noun	unstable > instability

In the oral data we find fairly predictable instances of low-level metaphor from an early age:

S Mum there's a **DIFFERENCE** between slice and cut. Slice means you're cutting something soft and cut means medium or hard. [age 6]

S Now I know the **DIFFERENCE** between nature and other things - nature is created by God but machines and other things are man-made. They're not living. [age 6]

S Mum, I think I know the **DIFFERENCE** between magma and lava. Well it's magma when it's in the earth and when it explodes out it's lava. [age 6]

(N & James discussing sneakers)
N They're pretty good but they haven't got much **WIDTH**. [age 10]

Stefan's use of 'difference' is technically metaphorical given that a viable congruent alternative was possible ('Slice and cut are different'[4]). The choice of 'difference' however is not particularly significant as he appears to be simply picking up on a commonly used expression. Nick's use of 'width', however, is more interesting as this is a more unusual choice (cf 'they're not very wide').

Examples from the written core data[5]:

He used fire for **WARMTH** [age 9]
['He used fire to keep warm']

There was still **a lot of POVERTY and BACKWARDNESS** [age 9]
['People were still very poor and backward']

Gwenda's feelings towards people are that of **DEFIANCE** and **INSECURITY** [age 12]
['Gwenda has defiant and insecure feelings towards people']

[4] This could of course be taken a step further in terms of the number of 'loops through the system' needed to arrive at the congruent - 'Slice and cut differ' - though it is unlikely that this would have represented a plausible alternative for Stefan.
[5] Possible congruent alternatives have been suggested in italics

From these two encounters, **Slake's CONFIDENCE** grows. [age 13]
['From these two encounters, Slake becomes more confident']

Ben wears old ragged clothes for the sake of wearing them and **MODESTY** as well. [age 13]
['Ben wears old ragged clothes ... because he is modest']

(See Appendix A for full listing of instances of this sub-type found in the data.)

	Age 5	*Age 6*	*Age 7*	*Age 8*	*Age 9*	*Age 10*	*Age 11*	*Age 12*	*Age 13*
Instances in the data	0	0	0	0	15	3	12	24	19
Total number of clauses	*73*	*441*	*183*	*285*	*694*	*1433*	*932*	*1638*	*966*
Percentage	*0%*	*0%*	*0%*	*0%*	*2.16%.*	*.2%*	*1.28%*	*1.46%*	*1.96%*

Table 6.5: Percentage of 'quality : thing' in the data

The above table indicates that there was no use of this type of metaphor until age 9, at which point there is a dramatic increase. Apart from the 'aberrance' at age 9, which will be discussed at the end of the chapter, the table demonstrates a steady growth in the use of this type of metaphor.

Ib process : thing

I b	process > process : thing	verb > noun	transform > transformation

This, the largest of all the sub-categories, can be further broken down according to type of process:

(i) 'doing' process : thing
(ii) 'sensing' process : thing
(iii) 'saying' process : thing
(iv) 'relating' process : thing

Each of these sub-types will be treated in turn.

Ib (i) 'doing' process[6] : thing

I b	(i) 'doing' process > 'doing' process : thing	verb > noun	transform > transformation

In the oral data Stefan, discussing his project on Ancient Egypt at age 12, is quite conscious of the shift from the more congruent 'keep the body intact' and 'keep the corpse from decaying' of the oral mode to the metaphorical 'mummification' and 'preservation' of the written mode:

S Mum, is 'preservation' a word?
M Why?
S Because I need it for my project. I've written 'Mummification was necessary ... ' you know, to keep the body intact and keep the corpse from decaying. Can I say '**MUMMIFICATION** was **NECESSARY** for **the PRESERVATION of the corpse**'?
(cf 'They had to mummify the body in order to preserve the corpse')

The following examples are from the written core data at a variety of ages:

Today I started earning poket money from fireweed **brik WORK** and **snail and grub WORK**. [age 5]

[6] Included in the category of 'doing' processes has been the related category of 'behavimg' processes.

['Today I started earning poket money from picking fireweed, working at cleaning the bricks and working at picking snails and grubs off the plants']

After **ten SHOTS** he was dead. [age 7]
['After he had been shot ten times he was dead/']

After **the COLLAPSE of the Qin dynasty** there were several other dynasties. [age 9]
['After the Qin dynasty collapsed ...']

that it was not **MURDER** but **self DEFENCE** [age 10]
['that he had not murdered him but had defended himself']

There hasn't been **many CHANGES** except for the barn, [age 11]
['Things haven't changed much except for the barn']

and are faced with **EXTINCTION** [age 12]
['and are about to die out']

On **his RETURN to the prison** he met Lawrence Kavenagh and George Jones [age 13]
['When he returned to the prison ...]

(See Appendix A for full listing of instances of this sub-type found in the data.)

	Age 5	*Age 6*	*Age 7*	*Age 8*	*Age 9*	*Age 10*	*Age 11*	*Age 12*	*Age 13*
Instances in the data	2	7	4	5	26	64	80	77	96
Total number of clauses	*73*	*441*	*183*	*285*	*694*	*1433*	*932*	*1638*	*966*
Percentage	*2.73%*	*1.58%*	*2.18%*	*1.75%*	*3.74%*	*4.46%*	*8.58%*	*4.7%*	*9.93%*

Table 6.6: Percentage of 'doing process : thing' in the data

In the data we find no substantial use of grammatical metaphor of the 'material process : thing' type until the age of 9. There is a handful of instances before age 9, but while these are of interest, they are not statistically significant. At age 5, 'brik WORK' and 'snail and grub WORK' would appear to be genuine attempts at metaphorical creations as Nick would not have heard such phrases being used around the house. Similarly, 'trout CAMPING' at age 6 was not a phrase used by the family, although this could be a simple transfer from the more common 'trout fishing'. At age 7, 'after ten SHOTS he was dead' and 'its CRYING

reached the ears of the feared sailors' both seem to have a literary ring which could be attributed to adventure stories being read at the time. After age 9, there is a substantial increase in the use of 'material process : thing' metaphors, though the growth is uneven, with an unexpected spurt at age 11. An attempt to explain this pattern will be provided at the end of the chapter.

Ib (ii) mental process : thing

I b	(ii) ‘thinking’ process > ‘thinking’ process : thing	verb > noun	imagine > imagining

In the oral data, Stefan reflects on his use of the term 'estimate', perhaps aware of the fact that he is using language in a more 'adult' way and wanting to make sure that he has nominalised correctly:

S How long till we get home?
N I predict it will take half an hour.
S Before you said two hours .... I'm not saying **your ESTIMATE** was wrong .... Is there such a thing as an "**ESTIMATION**"? [age 9 & 10]

Several months later another example shows him using 'estimation' in adult company rather than the more congruent 'When do you think dinner will be ready?', possibly in an attempt not to sound too 'pushy':

S Bruce, what's **your ESTIMATION of dinnertime**? [age 10]

During a game of Simcity, Nick is learning to use the more field-specific 'isn't in demand' rather than 'people don't want':

S Why aren't people buying?
N Because residential isn't **IN DEMAND**. [age 12 & 13]

The following are some typical examples from the written core data:

Marty is an inexperienced camper with **no KNOWLEDGE of camping whatsoever.** [age 10]
['... who doesn't know anything about camping at all.']

Oh how I rejoiced at **the SIGHT of his guts were spilling everywhere** [age 11]
['... when I saw his guts spilling everywhere.']

After **ANALYSIS** he classified it as Pithecanthropus erectus [age 12]
['After he had analysed it, ...']

it is that of the people, the crowds and **their REACTIONS to the walkers.** [age 12]
['... and how they reacted to the walkers.']

Our CONCERN for Antonio heightens [age 13]
['We become more concerned for Antonio']

The committee still wear red socks under their regulation black socks in **the HOPE that they some day may be able to wear any colour socks at school.** [age 13]
['... because they hope that they some day may be able to wear any colour socks at school.']

(See Appendix A for full listing of instances of this sub-type found in the data.)

	Age 5	*Age 6*	*Age 7*	*Age 8*	*Age 9*	*Age 10*	*Age 11*	*Age 12*	*Age 13*
Instances in the data	0	0	1	0	7	12	18	20	25
Total number of clauses	*73*	*441*	*183*	*285*	*694*	*1433*	*932*	*1638*	*966*
Percentage	*0%*	*0%*	*.54%*	*0%*	*1%*	*.83%*	*1.93%*	*1.22%*	*2.58%*

Table 6.7: Percentage of 'sensing process : thing' in the data

Again we find virtually no instances in the written data until age 9, at which point there is a relatively steady pattern of growth, except for another ‘blip’ at age 11. The fact that there are fewer instances overall of this type of metaphor reflects the fact that mental processes occur much less frequently in our language use than material processes. Even this count might be seen as somewhat generous as it has included such clichéd or idiomatic expressions as ‘**our first thought** was to settle in’ and ‘not another white person **in sight**’. While it is possible to posit a congruent version of these (‘the first thing we did was to think about settling in’; ‘we couldn’t see another white person’) it is unlikely that these would have been considered as equally likely selections.

Ib (iii) verbal process : thing

I b	(iii) 'saying' process > 'saying' process : thing	verb > noun	declare > declaration

Examples from the written core data:

Personal definition: **My personal DEFINITION of a lever** is something that can prise up something [age 10]
['The way I define a lever is ...']

On the way to Sheffield I had to sit through **a TALK from an old lady** [age 13]
['... I had to sit and listen while an old lady talked.']

The battle is still continuing with **verbal ABUSE** etc. [age 13]
['... with people abusing each other verbally.']

(See Appendix A for full listing of instances of this sub-type found in the data.)

	Age 5	*Age 6*	*Age 7*	*Age 8*	*Age 9*	*Age 10*	*Age 11*	*Age 12*	*Age 13*
Instances in the data	0	0	0	1	1	5	3	6	7
Total number of clauses	*73*	*441*	*183*	*285*	*694*	*1433*	*932*	*1638*	*966*
Percentage	*0%*	*0%*	*0%*	*.35%*	*.14%*	*.34%*	*.32%*	*.36%*	*.72%*

Table 6.8: Percentage of 'saying process : thing' in the data

Because the general use of verbal processes is relatively low and because the motivation to use them metaphorically is probably even lower, it is not unexpected that there would be few instances found in the data. The only significant aspect of the table above is that again few instances were found before age 10, while after this age there is growing evidence of its use.

Ib (iv) relational process : thing

I b	(iv) 'relating' process > 'relating' process : thing	verb > noun	has > ownership

Examples from the written core data:

> **His APPEARANCE** is very nice with short straight fur. [age 8]
> *['He looks very nice with short straight hair.']*
>
> as the store has passed through **many OWNERSHIPS**. [age 11]
> *['as the store has been owned by many different people.']*
>
> The Alaskan Ranges is **the north west CONTINUATION of the Rocky Mountains.** [age 12]
> *['The Alaskan Ranges is where the Rocky Mountains continue in the north west.']*
>
> caused by **his LACK of control over his emotions**. [age 13]
> *['because he did not have enough control over his emotions.']*

(See Appendix A for full listing of instances of this sub-type found in the data.)

	Age 5	*Age 6*	*Age 7*	*Age 8*	*Age 9*	*Age 10*	*Age 11*	*Age 12*	*Age 13*
Instances in the data	0	0	0	1	4	3	2	6	11
Total number of clauses	*73*	*441*	*183*	*285*	*694*	*1433*	*932*	*1638*	*966*
Percentage	*0%*	*0%*	*0%*	*.35%*	*.57%*	*.2%*	*.21%*	*.35%*	*1.13%*

Table 6.9: Percentage of 'relating process : thing' in the data

Here again the small number of instances make it difficult to generalise in any way, except to note that in the early years there is no evidence of the use of 'relational process : thing' grammatical metaphor, while in the later years there appears to be an increase in its use, particularly at age 13.

In the related category of existential processes, no instances of its metaphorical use were to be found in the data.

Summary of use of process : thing metaphor

To summarise this section on different types of processes used metaphorically, we could bring together all instances of the different types found in the data:

	Age 5	*Age 6*	*Age 7*	*Age 8*	*Age 9*	*Age 10*	*Age 11*	*Age 12*	*Age 13*
Instances in the data	2	7	5	7	38	84	103	109	139
Total number of clauses	*73*	*441*	*183*	*285*	*694*	*1433*	*932*	*1638*	*966*
Percentage	*2.73%*	*1.58%*	*2.73%*	*2.45%*	*5.47%*	*5.86%*	*11.05%*	*6.65%*	*14.38%*

Table 6.10: Total percentage of 'process : thing' in the data

In this combined table it is possible to discern more clearly a trend towards increasing use of grammatical metaphor of the 'process : thing' type from the age of 9 upwards.

Ic phase of process (time) : thing

I c	phase of process > phase of process: thing	tense > noun	going to > prospect

In addition to considering the nominalisation of different types of processes, we can look at the nominalisation of various aspects of processes, such as phase (time), phase (reality), modality, and the like.

The following are the only instances of metaphorical phase in the data (and even a couple of these are borderline interpretations):

I had a bit of trouble at **the START off the race.** [age 7]
['I had a bit of trouble when we started racing']

it was near **the END of the game.** [age 8]
['they had nearly finished playing']

Sixteen of the twenty motorcyclists were out in **the BEGINNING of the race** because of a major collision. [age 11]
['... when they began to race ...']

Germination is **the RESTARTING of growth** by the embryo inside a seed. [age 12]
['Germination is when the embryo inside the seed starts to grow.']

Garraty meets a few people before **the BEGGINING of the walk** [age 12]
['Garraty meets a few people before they begin to walk']

At **the very BEGINNING** he collects three warnings [age 12]
['When they first begin [to race], he collects three warnings']

how he had seen **the END of the race** [age 12]
['how he had seen them finishing the race']

Events throughout the book bring their outlooks to a normal standard and **a fresh START** to life.) [age 13]
['... and they start to live life afresh']

	Age 5	*Age 6*	*Age 7*	*Age 8*	*Age 9*	*Age 10*	*Age 11*	*Age 12*	*Age 13*
Instances in the data	0	0	1	1	0	0	1	3	2
Total number of clauses	*73*	*441*	*183*	*285*	*694*	*1433*	*932*	*1638*	*966*

Percentage	*0%*	*0%*	*.54%*	*.35%*	*0%*	*0%*	*.1%*	*.18%*	*.2%*

Table 6.11: Percentage of 'phase of process (time) : thing' in the data

The instances in the data are so few that any statistical analysis would be invalid.

While there are numerous instances in the data such as 'the end', 'the finish', 'the beginning', in most cases these are generally nominalisations of material processes ('to end', 'to finish', 'to begin') rather than examples of metaphorised phase.

e.g.

In **the BEGINNING of the play** Bassanio asks for a loan from Antonio. [age 13]
*['When the play **begins**, Bassanio asks for a loan from Antonio.']*

Nominalisation of phase are distinguished from the above by the fact that they are accompanied by a nominalisation of the process to which the phase refers.

e.g.

Garraty meets a few people before **the BEGGINING of the WALK** [age 13]
*['Garraty meets a few people before they **begin to walk**']*

It is of interest that there are so few examples of metaphorical phase in the data, given that there are numerous examples of phase being used congruently:

e.g.

because she **started to write** all the sums up on the board.
I picked up a piece of chalk
and **started to write** on the board also. [age 6]
I **kept on walking**. [age 6]
I **started to cry**. [age 6]
Just when I **was going to jump** back into the window [age 6]
he sudenly **stoped eating** [age 6]
He **kept winning** races [age 6]
and **started to shoot** at him. [age 7]
We **started putting up** the frame work [age 8]
Immediately they **started to attack** [age 8]
The next day we **started packing**. [age 8]
then « when the clouds are big and black » they **start to rain**. [age 8]

After a while the Mongols **started to invade** the Empire [age 9]
so I **start reading** it [age 9]
I **started letting** them **down** [age 10]
as we **continue to use** it. [age 10]
then things **started to settle down** [age 11]
and I **started going** to Jamberoo Primary School. [age 11]
After what seemed like 16 hours they **started saying goodbye**. [age 11]
We **started planning** our future life immediately. [age 11]
soon lights **started flashing** [age 12]
I **kept walking** [age 12]
and that I **was going to be** the first teenager to travel in time. [age 12]
and **was about to gallop off**, [age 12]
and a few spikes **were beginning to come out** of the walls. [age 12]
and I was **going to end up** like the other skeletons. [age 12]
but Gwenda, defiantly **continous to walk** along the river bank. [age 12]
Alan sets off **to continue his life**. [age 12]
They **end up becoming** the figures on the screen. [age 12]
and is **about to be shot** [age 12]
and **starts running** [age 12]
When they **start the walk** [age 12]
He is beckoned by a dark figure (Death?) **to keep walking** forwards. [age 12]
because money had **ceased to exist** except in the form of rum and tokens saying I will pay someone so much for this! [age 13]
I **am beginning to miss** my family [age 13]
The servant also **kept turning** my light on and off [age 13]
but Raja **continous to be** independent of me [age 13]
and **is starting to trust** me more. [age 13]
and **continued to do so** for the next 40 years [age 13]
This conclusion I draw from the fact that the Red King **ended up dying** on this flame of his [age 13]
where they just **kept** repeating the same information that I already had. [age 13]

We might conclude that metaphorical phase (time) is one aspect of grammatical metaphor which develops later, perhaps due to the fact that phase is used in the data primarily in narrative contexts where nominalisation is not as prevalent.

Similarly, there are no instances of metaphorical reality phase, even though there is evidence of this being used congruently:

e.g.

[Max has got a cute little face
wich **seems** to smile all the time. [age 7]
and they **seemed** to take about fifty photographs . [age 9]
that vedeo taping **might seem** fun [age 9]
Although our sun **seems** very big [age 9]

[In movies people aren't really shot up
as they **seem** to be [age 10]
and they **seem** to be dead according to the viewer. [age 10]
After what **seemed** like 16 hours they started saying goodbye. [age 11]

Again, we might assume that, while metaphorical reality phase is possible in certain contexts, it is simply not called for in the sort of texts that Nick was writing.

Id conation : thing

I d	conation > conation : thing	phase > noun	try to > attempt

Halliday identifies another aspect of processes, conation, as a candidate for metaphorising. In the data we find the following instances:

and therefore it would be **a financial SUCCESS** [age 9]
['and therefore it would succeed financially/ would raise a lot of money']

and it had **great SUCSESS** [age 10]
['and it succeeded greatly/ it went very well']

The fire was stopped only by **frantic EFFORTS** from people who axed down a shop to create a breakage. [age 11]
['...by people who tried frantically ...]

On the 15th of February a small group of vandals made **an ATTEMPT to burn down parts of Kiama High School.** [age 11]
['... a small group of vandals attempted to burn down ...']

After **three ATTEMPTS** the scoundrels managed to set the building alight. [age 11]
['After they had tried three times, ...']

Captain Honey then made **an ATTEMPT** to swim into shore with his wife [age 11]
['Captain Honey then tried to swim into shore with his wife']

Mr Wood made **a stupendous ATTEMPT** to save his three children [age 11]
['Mr Wood tried really hard to save his three children']

It also demonstrated the American powers in **an EFFORT to show the world** [age 11]
['... as they tried to show the world']

The Kiama High School athletics carnival was **a great SUCCESS** [age 11]
['... succeeded greatly/went really well']

With these people and a few others who also went great K.H.S. should be expecting **a fabulous SUCCESS** at the Zone carnival. [age 11]
['... should be expecting to do really well...']

Many ATTEMPTS were made to stop the fire such as chains of people with buckets of water [age 12]
['They tried several ways to stop the fire ...']

An extra EFFORT has to be made [age 12]
['You must try harder']

At the very beginning he collects three warnings in **an ATTEMPT to see what the limits are** [age 12]
['... as he tries to see what the limits are']

They had **little SUCCESS**. [age 12]
['They didn't succeed much']

and goes on **his QUEST to find back his inheritance** [age 12]
['and goes off to try and find back his inheritance']

	Age 5	*Age 6*	*Age 7*	*Age 8*	*Age 9*	*Age 10*	*Age 11*	*Age 12*	*Age 13*
Instances in the data	0	0	0	0	1	1	8	5	1
Total number of clauses	*73*	*441*	*183*	*285*	*694*	*1433*	*932*	*1638*	*966*
Percentage	*0%*	*0%*	*0%*	*0%*	*.14%*	*.06%*	*.85%*	*.3%*	*.1%*

Table 6.12: Percentage of 'conation : thing' in the data

Again we find relatively few examples of metaphorical conation, even though conation in its congruent form is used frequently from an early age, such as in the following examples:

The Police **tried** to shoot him. [age 7]
and **tried** to (get) capture them. [age 8]
He **tried** to flap his wings [age 10]
the [town] street **had managed** to re-establish it's losses, [age 11]
After three attempts the scoundrels **managed** to set the building alight. [age 11]
While **attempting** to row back to safety [age 11]
All this time Mrs Wood **managed** to keep her seat. [age 11]
I **had managed** to draw her into my clutches [age 11]
to **try** and obtain land. [age 11]
which the school committee **managed** to raise funds for. [age 11]
He **succeeded** in transmitting bird malaria by mosquito bites. [age 12]
young kids on drugs **trying** to do deals and begging from the travellers. [age 12]
The French **tried** to fight the Vietnamese [age 12]
and **attempts** to continue life as normal [age 12]
to **try** and support their families [age 12]
The plot in Kidnapped is that David is **trying** to claim his inheritance [age 12]

and David **manages** to swim ashore. [age 12]
who **managed** to cling to a bit of wood [age 12]
David and Alan **try** to find food and shelter from highlanders or rebels. [age 12]
and **try** and get the lawyer. [age 12]
Factories are **trying** to lower emissions. [age 13]
He **endeavoured** to substitute beer [age 13]
where he **attempted** to escape [age 13]
Bessie **attempted** to sell some of her clothes and jewlery [age 13]
and he'll probably **try** and bribe me into liking him again. [age 13]
In **attempting** to cheer up my dismal passengers [age 13]
He is always **trying** to shut me out [age 13]

When conation is nominalised, it tends to occur in Process+Range constructions.

Ie modality of process : thing

I e	modality of process > modality of process : thing	modal > noun	can > possibility; may/ must > permission/ necessity

In the oral data we find various examples of metaphorised modality:

(Watching Olympics)
S Great - the black man is winning.
M Why is that great?
S Because they have longer legs.
N ... and they also have **more CAPACITY for running**.
D Why would they have more capacity?
N I don't know - they live in a harsher land. [age 9 & 10]

S Has the ozone layer opened over Australia? I can think of **one POSSIBILITY** if it opens all over the world. An underground city. How would you get fresh air? Does cancer affect the air? [age 10]

(S & M looking for N.)
S There's **a POSSIBILITY that he went right.** [age 10]

(N wanting to buy a pair of Reeboks)
N What would **the PROBABILITY be of being able to get those shoes**? [age 13]

The following are representative examples from the written core data:

His main RESPONSIBILITY is to bring things together [age 9]
['He has to bring things together']

Ned had **the OPTION**[7] **of shooting them** [age 10]
['Ned could have shot them']

There would be **a NEED to have modern firefighting equipment hidden** [age 11]
['They would have to have modern firefighting equipment hidden']

because there is **the POSSIBILITY that somebody will read the books** [age 12]
['because somebody might read the books']

[7] Martin sees 'option' as metaphorical, though Halliday would not. (p.c.)

But the main climax is when Garraty sits down for **WANT of rest** [age 13]
['... because he has to rest']

(See Appendix A for full listing of instances of this sub-type found in the data.)

	Age 5	*Age 6*	*Age 7*	*Age 8*	*Age 9*	*Age 10*	*Age 11*	*Age 12*	*Age 13*
Instances in the data	0	0	1	0	2	2	5	17	4
Total number of clauses	*73*	*441*	*183*	*285*	*694*	*1433*	*932*	*1638*	*966*
Percentage	*0%*	*0%*	*.54%*	*0%*	*.28%*	*.13%*	*.53%*	*1.03%*	*.41%*

Table 6.13: Percentage of 'modality : thing' in the data

The analysis of the data reveals a sprinkling of instances in the data, increasing after age 11 with an unexpectedly high proportion at age 12.

Again we find a multitude of congruent instances in the core data. The following excerpt from a project about a musical production written at age 9 shows that certain aspects of the congruent use of modality are well under control:

Music **can** make a production worthwhile seeing
or it **can** be a very boring production
and it is **possible** that not many people will come to see it.
The musical director **must** be confident in what he/she does
and **must** choose the musicians carefully and the singers
because a) The singers voice **must** fit with the music and character
b) You don't want the musicians to make mistakes all the time
so it is wise to pick professionals.
The musical director **must** thoroughly understand
how the song fits in the show.
Rehearsals for the band and the main characters who have songs in the production **have to** be arranged.
The week before all the kids in the drama group **had to** audition for the play OLIVER!
The director **had to** select a scene for the drama group to act
then the director **had to** then select the best actor .
But that wasn't the only thing that they **had to** do.
They **had to** sing

to see
whether they fitted in with the band.
If they didn't
they **couldn't** get a main part in the musical production.
They **would** only get a minor part in the production.

If minor process : thing

(including the category of 'circumstance : thing')

If	minor process > minor process : thing circumstance > circumstance : thing	preposition > noun adverbial group/prep.phrase > noun	with > accompaniment; like > similarity; instead of > replacement 'how quickly?' > rate [of growth]

This is one of the less clearcut categories to identify. Halliday gives examples of 'minor process : thing' as well as 'circumstance : thing'. While there may be reason to separate these out at times, they are so close that they will be treated as a single group here.

In the oral data, Stefan (at age 9, following a visit to the dentist where he has been told that his new teeth are too big for his jaw) comes out with:

S **Amazing RESEMBLANCE to a vampire** - big teeth, little jaw.

instead of the more congruent 'I look like a vampire'. Similarly, a year later, he makes the comment while watching television that:

S She has **a striking RESEMBLANCE to Mary-Anne Fahey**.

when he could just as easily have said 'She looks a lot like Mary-Anne Fahey'.

We also find instances such as the following where Stefan [age 10] is conscious of the need to compact the congruent expression 'how many people die each year', but needs help to come up with 'death rate':

S. Mum, on my graph of **how many people die each year**, what word could I use?

In the written data we also find several instance of congruent expressions which in adult written language would probably have been metaphorised:

Australia has 200 years worth of coal
but that depends on **how quickly we use it.** [age 9]

[cf 'rate of use']

Colour of stars and **How big** stars are [age 9]

(cf 'size of stars')

They had special rules in the tribe
and the penalties varied
from **how big crime it was** [age 11]

(cf 'the size of the crime')

But we also find several metaphorised instances, e.g.:

This gave us **an Idea of the DISTANCE it would be** [age 9]
['This gave us an idea of how far it would be']

Also the coluors shows you **the TEMPRATURE of the star** [age 9]
['Also the colours show you how hot the star is']

because a train couldn't climb **such a HEIGHT** in one go. [age 10]
['because a train couldn't climb so high in one go']

The PRICE depends on the condition of the golfball and colour, [age 10]
['How much it costs depends on the condition of the golfball and colour']

By getting a tin about **the SIZE of a pineapple tin** [age 10]
['By getting a tin about as big as a pineapple tin']

but a large ovalic one on the bottom **in RESEMBLANCE to a head**. [age 11]
['but a large ovalic one on the bottom like a head']

The only place **of slight SIMILARITY to PNG** is Kakadu [age 11]
['The only place slightly similar to PNG is Kakadu']

The rivers are **a MEANS of transport and communications** [age 11]
['People transport goods and communicate by river']

The video shows **the EXTENT of the damage caused by earthquakes** [age 12]
['The video shows how much damage was caused by earthquakes']

The tree hurtled down with **such VELOCITY** that we couldn't escape [age 12]
['The tree hurtled down so fast that we couldn't escape']

which is roughly **the same SIZE as the United Kingdom, Uganda or Romania.** [age 12]
['which is roughly as big as the United Kingdom Uganda or Romania.']

and attained **a HEIGHT of 1.72 m.** [age 12]
['and grew 1.72 m. tall']

(See Appendix A for full listing of instances of this sub-type found in the data.)

	Age 5	*Age 6*	*Age 7*	*Age 8*	*Age 9*	*Age 10*	*Age 11*	*Age 12*	*Age 13*
Instances in the data	0	0	0	0	9	12	12	13	2
Total number of clauses	*73*	*441*	*183*	*285*	*694*	*1433*	*932*	*1638*	*966*
Percentage	*0%*	*0%*	*0%*	*0%*	*1.29%*	*.83%*	*1.28%*	*.79%.*	*.2%*

Table 6.14: Percentage of 'circumstance : thing' in the data

Following an absence of this kind of metaphor in the early years, we find a somewhat uneven occurrence of instances from age 9 onwards.

Ig process + circumstance : thing

I g	process + circ. > process + circ. : thing	verb+adverb/prep.phrase > noun	move in circle > revolution

No instances of this type of metaphor were found in the data.

Ih relator : thing

I h	relator > relator : thing	conjunction > noun	so > cause, proof

On a first analysis, an inordinate number of clauses were found of the type

> 'The **reason** we should save energy is because some main forms of energy are limited'.

While it was tempting to include all of these as examples of 'relator : thing' metaphor, it was decided that although they represented nominalisations of causality, they were not strictly metaphorical.

In the written data, Nick moves freely between the congruent ...

> We had debated on **where we should kill him**. [age 12]

... and the metaphorical:

> With my fellow conspirators from the Senate, we plotted **the TIME and PLACE of Caesar's assassination**.

The following are typical of this type of metaphorisation:

> to set **the PLACE** (London) and **TIME** (1850) [age 9]
> *['to set where and when we would do it']*

> so that they can learn more about **whales' LIFESTYLES.** [age 10]
> *['so that they can learn more about how whales live']*

> and then the Q.L. train would take them to **their DESTINATION**. [age 10]
> *['and then the Q.L. train would take them to where they wanted to go']*

> The sun is **the SCOURCE of all energy**. [age 10]
> *['The sun is where we get all our energy from']*

> In serious **CASES** of cowardice, poor fighting, etc. they were drowned in swamps. [age 11]
> *['If someone was very cowardly, or fought poorly, etc. they were drowned in swamps.']*

as petrol was found all over **the crash SIGHT** [age 11]
['as petrol was found all over where he crashed']

At the very beginning he collects three warning in an attempt to see what **the LIMITS** are [age 12]
['At the very beginning he collects three warning in an attempt to see how far he can go']

inquiring of **the WHEREABOUTS of Bessie and Pratt.** [age 13]
['inquiring about where Bessie and Pratt were']

(See Appendix A for full listing of instances of this sub-type found in the data.)

	Age 5	*Age 6*	*Age 7*	*Age 8*	*Age 9*	*Age 10*	*Age 11*	*Age 12*	*Age 13*
Instances in the data	0	0	0	0	2	12	7	11	1
Total number of clauses	*73*	*441*	*183*	*285*	*694*	*1433*	*932*	*1638*	*966*
Percentage	*0%*	*0%*	*0%*	*0%*	*.28%*	*.83%*	*.75%*	*.67%*	*.1%*

Table 6.15: Percentage of 'relator : thing' in the data

Once again we find no use of this kind of metaphor before age 9. From age 9 onwards there is an uneven pattern of usage.

Summary of ‘shift to thing’

The following table indicates the frequency of use of this type of metaphor across age levels (5 years to 13 years) as a percentage of the total number of clauses written.

	Age 5	*Age 6*	*Age 7*	*Age 8*	*Age 9*	*Age 10*	*Age 11*	*Age 12*	*Age 13*
Instances in the data	2	7	7	8	67	114	148	182	168

Total number of clauses	*73*	*441*	*183*	*285*	*694*	*1433*	*932*	*1638*	*966*
Percentage	*2.73%*	*1.58%*	*3.82%*	*2.8%*	*9.65%*	*7.9%*	*15.87%*	*11.11%*	*17.39%*

Table 6.16: Summary of 'Shift to thing'

6.3.2 II. SHIFT TO 'QUALITY'

This type of experiential metaphor is the second largest grouping to be found in the data. As with the 'shift to thing' group of metaphors, this group can be further subdivided into a range of subtypes:

#	semantic shift	class shift	example
IIa	thing > thing : class (of things)	noun head > noun premodifier	engine [fails] > engine [failure]
IIb	thing > thing : circumstantial quality	noun head > prep.phrase postmodifier	glass [fractures] > [the fracture] of glass
IIc	thing > thing : possessor (of thing)	noun head > possessive determiner	government [decided] > government's[decision]
IId	process > process : quality	verb > adjective	[poverty] is increasing > increasing [poverty]
IIe	phase of process > phase of process : quality	tense/phase verb (adverb) > adjective	begin > initial
IIf	modality/modulation of process > modality of process : quality	modal verb/adverb > adjective	will, always > constant; may, must > permissible, necessary
IIg	circumstance > circumstance : quality/class	prepositional phrase/adverb > noun premodifier	[acted] brilliantly > brilliant [acting]; [argued] for a long time > lengthy [argument]; [cracks] on the surface > surface [cracks]
IIh	relator > relator : quality	conjunction > adjective	before > previous

Table 6.17: 'Shift to quality'

IIa thing : class (of things)

II a	thing > thing : class (of things)	noun head > noun premodifier	engine [fails] > engine [failure]

The only instances of this type of metaphor in the data are the following:

Anyone interested in **GOLFBALL finding** should start off with suitable clothing. [age 10]

The only possibility it could have been is **ENGINE failure**, [age 11]
[cf 'when the engine started to fail' earlier in text]

The fire was prevented from burning further houses on Shoalhaven St by **an unexpected WIND change.** [age 11]

the main changes I have noticed in my time here is that it has changed from **a CEDAR logging area** to a farming community with dairying and wheat products. [age 11]

and crashed into **the back of a ROAD maintenance truck** which was parked on the side of the road. [age 11]

These have not been included in the final tally as they are simply part of a syndrome accompanying the metaphorisation of another element. Their status as metaphors therefore is relatively incidental.

(See Appendix B for full listing of instances of this sub-type found in the data.)

	Age 5	*Age 6*	*Age 7*	*Age 8*	*Age 9*	*Age 10*	*Age 11*	*Age 12*	*Age 13*
Instances in the data	0	0	0	0	0	1	4	0	0
Total number of clauses	*73*	*441*	*183*	*285*	*694*	*1433*	*932*	*1638*	*966*
Percentage	*0%*	*0%*	*0%*	*0%*	*0%*	*.06%*	*.42%*	*0%*	*0%*

Table 6.18: Percentage of 'thing : class of things' in the data

IIb thing : circumstantial quality[8]

II b	thing > thing : circumst'l quality	noun head > prep.phrase post-modifier	glass [fractures] > [the fracture] of glass

In this category, things which, in the congruent case, had functioned as noun head have taken on a 'circumstantial' role as postmodifiers as a result of the metaphorising process. As above, because these are simply the secondary outcome of a primary metaphorisation, they have not been counted in the tally of instances, but are reported here for interest.

I had a bit of trouble at **the start OFF THE RACE**. [age 7]
['... when the race started']

After **the collapse OF THE QIN DYNASTY** there were several other dynasties. [age 9]
['After the Qin dynasty collapsed, ...']

But that meant **a lot of changing OF THE PASSENGERS AND LUGGAGE** [age 10]
['But that meant that the passengers and luggage had to be changed']

Therefore seeing **the change IN TECHNOLOGY** meant to Abigail a change in time. [age 12]
['So when she saw how technology had changed ...']

In **the beginning OF THE PLAY** Bassanio asks for **a loan FROM ANTONIO.** [age 13]
['When the play begins, Bassanio asks Antonio to lend him some money']

The other factor for **this increase IN CHURCHES** was that so many different nationalities had come out [age 13]

(See Appendix B for full listing of instances of this sub-type found in the data.

	Age 5	*Age 6*	*Age 7*	*Age 8*	*Age 9*	*Age 10*	*Age 11*	*Age 12*	*Age 13*
Instances in the data	0	0	1	1	4	6	12	21	20
Total number of clauses	*73*	*441*	*183*	*285*	*694*	*1433*	*932*	*1638*	*966*
Percentage	*0%*	*0%*	*.54%*	*.35%*	*.57%*	*.41%*	*1.28%*	*1.28%*	*2.07%*

[8] In his an earlier version of his taxonomy, Halliday uses the term 'circumstantial quality' to refer to this category. In a later version, he uses the term 'possessor' (followed with a question mark). Neither of these appear to capture the exact nature of this category.

Table 6.19: Percentage of 'thing : circumstantial quality' in the data

IIc thing : possessor (of thing)

II c	thing > thing : possessor (of thing)	noun head > possessive determiner	government [decided] > government's [decision]

This category is similar to the above two and as such will not be included in the tally. Examples in the data include:

and **IT'S crying** reached the ears of the feared sailors. [age 7]

HIS appearance is very nice with short straight fur. [age 8]

The King of Spain wasn't interested in **MY plans**. [age 9]

After **MT. BUFFALO'S reputation** had spread overseas [age 10]

so I'll refresh your memory about the sorts of things that have happened since **OUR arrival in Jamberoo.** [age 11]

and give me **YOUR oppinion on it**. [age 12]

On **MACQUARIE'S arrival in England** he was already a thing of the past. [age 13]

(See Appendix B for full listing of instances of this sub-type found in the data.)

	Age 5	*Age 6*	*Age 7*	*Age 8*	*Age 9*	*Age 10*	*Age 11*	*Age 12*	*Age 13*
Instances in the data	0	0	1	1	6	11	14	21	21
Total number of clauses	*73*	*441*	*183*	*285*	*694*	*1433*	*932*	*1638*	*966*
Percentage	*0%*	*0%*	*.54%*	*.35%*	*.86%*	*.76%*	*1.5%*	*1.28%*	*2.17%*

Table 6.20: Percentage of 'thing : possessor (of thing)' in the data

IId process : quality

II d	process > process : quality	verb > adjective	[poverty] is increasing > increasing [poverty]

There are interesting examples of Nick and Stefan using this type of metaphor from the oral data. At age 8, Stefan shifts from the congruent 'it erupts' to the more metaphorical 'eruptive':

S If we're living on top of a volcano and it erupts .....
M Are we living on a volcano?
S Well, **an ERUPTIVE area** ... Saddleback was a volcano.

This is a significant instance, given that it is from a relatively early age. Its motivation is also of interest. Stefan had recently been involved in a very stimulating school project on rocks in the local area, where the children were encouraged to take on the role of apprentice geologists and to scientifically study the rock formations in the surrounding region. In the course of the project, the children were encouraged to use the technical terminology of the field, and it could be that his use of 'eruptive' is a carry-over from the project. On the other hand, this could be an example of Halliday's 'trailer strategy', where the child ventures into a new area which is beyond his or her current level of ability[9] (see Chapter 3). This instance highlights the issue of whether the use of grammatical metaphor in children is a matter of 'maturity' at around adolescence, or whether it is a matter of the type language to which they are exposed and the expectations placed upon them to use more 'adult' language. This question will be revisited in Chapter 8.

On the same day, Stefan was watching a documentary on television about Diprotodonts. When the presenter stated that '... these giants are no more', Stefan asked:

S Why doesn't he say "**EXTINCT**"?

Here again we have a sensitivity to the nature of more technical registers, with a conscious awareness of metaphorical options.

[9]When asked (at age 14) to reflect on his use of 'eruptive' at age 8, Stefan felt that it more a case of 'trying things out' and experimenting, than transferring a possible 'stock phrase' from the geology project.

The oral data also reveals Nick using an interesting metaphorical construction ('multi-layered') at age 10 and discussing what he means by it:

M: Nick, can you tell me why you chose that particular book?

N: Partly because it appeals to anybody at any age and because of **its MULTI-LAYERED structure**.

M: What on earth do you mean by that?

N: Well, because it appeals to all the different ages, children can read a simple book and adults can read it as a book with a very good meaning and I find **the more often you read it the more you tend to find out about the more things that you missed the first time you looked or the second time you looked, so you always find something new every time you read it**.

M: Do you think that makes it a good book?

N: Yes because that means you're never going to get bored with it. **You're always finding something new and although the writing may be the same the pictures mainly helping you along; you find that the words always change their meaning every time you see something new in the picture**. ... It's like a little children's book out of a nursery, but it changes towards the end and that's where **the MULTI-LAYERED part** comes in; it changes, **it's got many different meanings.**

Examples from the written core data include:

and we got **BLESTING feet** and **BLESTING hands** [age 6]
['and our feet and hands were blistered']

that Wayne Gardener had **a fire POWERED engine** [age 6]
['that Wayne Gardener had an engine powered by fire']

and it's crying reached the ears of **the FEARED sailors**. [age 7]
*[cf draft #2: and it's crying reached the ears of the **fearful** sailors]*

there were **several fascinating stone CARVED animals** and guards. [age 9]
['there were several fascinating animals carved out of stone']

to turn **the MOISTURISED pulp** into paper form. [age 10]
['to turn the pulp moisturised by the water into paper form']

demolishing the rest of the houses, shops and **part of the newly CONSTRUCTED "handsome Hotel"**. [age 11]
['... the 'Handsome Hotel' which had been constructed recently']

She was also looking at **the freshly DUG fields** which showed signs of my toil and labour. [age 11]
['She was also looking at the fields which I had recently dug up ...']

Conclusion: The importance of the Vietnam war in history is that it turned Vietnam from **a foreign CONTROLLED country** into an independent, communist country. [age 12]
['... a country controlled by foreign powers']

The video showed us many examples of **the EVER-INCREASING problems of pollution and extinction that is facing us today**. [age 12]
['... how the problems of pollution and extinction keep on increasing...']

and changed from **foul SMELLING dirt tracks** to **ORGANIZED PAVED towns**. [age 13]
['and changed from dirt tracks which smelled foul to town which were organised and paved.']

The priory is like a temple with **it's CRUMBLING pillars, WORN stone steps, PAVED walkway**. [age 13]
['The priory is like a temple with its pillars crumbling away, its stone steps worn by [...] and its walkway paved with [...]']

(See Appendix B for full listing of instances of this sub-type found in the data.)

	Age 5	*Age 6*	*Age 7*	*Age 8*	*Age 9*	*Age 10*	*Age 11*	*Age 12*	*Age 13*
Instances in the data	0	2	1	1	5	21	31	43	29
Total number of clauses	*73*	*441*	*183*	*285*	*694*	*1433*	*932*	*1638*	*966*
Percentage	*0%*	*.45%*	*.54%*	*.35%*	*.72%*	*1.46%*	*3.32%*	*2.63%*	*3%*

Table 6.21: Percentage of 'process : quality' in the data

The analysis of the data in this category reveals a trend similar to that found previously - a few instances up till around age 9 followed by a significant increase.

IIe aspect or phase of process : quality

II e	aspect/phase of process: > phase of process : quality	tense/ phase verb (adverb) > adjective	begin > initial

The oral data gives an example of Nick (age 11) commenting on a wasp which refuses to fly out of the car:

N This wasp is **PERSISTENT**!

instead of the more congruent 'keeps on flying around'.

In the written data there are only two instances of 'aspect of process' (conation) realised metaphorically:

Ned is not guilty of **the ATTEMPTED murder of Fitzpatrick** [age 10]

Charge: **ATTEMPTED murder of Constable Fitzpatrick** [age 10]

Even these instances are not very significant as they appear to have a somewhat formulaic nature.

(See Appendix B for full listing of instances of this sub-type found in the data.)

	Age 5	*Age 6*	*Age 7*	*Age 8*	*Age 9*	*Age 10*	*Age 11*	*Age 12*	*Age 13*
Instances in the data	0	0	0	0	0	2	0	0	0
Total number of clauses	*73*	*441*	*183*	*285*	*694*	*1433*	*932*	*1638*	*966*
Percentage	*0%*	*0%*	*0%*	*0%*	*0%*	*.13%*	*0%*	*0%*	*0%*

Table 6.22: Percentage of 'phase of process : quality' in the data

IIf modality/modulation of process : quality

II f	modality/modulat'n of process > modality of process : quality	modal verb/adverb > adjective	will, always > constant

This type of metaphor is very common in the children's oral language from an early age:

(N & S playing with raft made of textas in bathtub)
N - This is automatic control. It's **INVINCIBLE**.
S - It's **FLOATABLE**.
N - It knows where it wants to go. [ages 7 &9]

(S. talking about Lego robot)
S Mum this is **even a little bit INVINCIBLE**.
M Why?
S Because I just dropped it and only two pieces came off. [age 8]

(S. always loses the secateurs, leaving them in the bushes.)
G Did you put the secateurs away or leave them where I can see them?
S At least I know where they are and at least they're **SEEABLE**. [age 10]

(N. & S. playing with model planes)
S Nick, this plane is **INDESTRUCTIBLE**. It fell to the ground and didn't break, remember?
N But it probably depends what angle it fell on and what part it fell on. [age 10 & 12]

(Watching monster movie).
N In bat form he's **SHOOTABLE**. [age 11]
('when he's the form of a bat you can shoot him')

(Taking bottles to the tip.)
S These are **NON-RECYCLABLE** ... These are ones you don't get money for. [age 11]

S What's a disease that can't be cured and causes death - internal?
M Terminal
*(When asked to repeat the question so M could record it, S said: 'What's a disease that's **INCURABLE**?') [age 11]*

(When asked how the temperature of the water was at the beach...)
S It was **SWIMMABLE**. [age 12]

(S enquiring about leprosy)
S Is it **CATCHABLE**? I mean ... what's the word? ... contagious? [age 12]

D Why are you putting it in that bag?
N 'Cause that means it's **more ACCESSIBLE**. [age 12]

(N. playing backgammon and remarking on the men)
N Mine are **INVULNERABLE**. [age 12]

(N. talking with G. about her immediate eligibility for a gold driver's licence.)
N You immediately were **APPLICABLE for gold**. [age 12]

(S. referring to dead cactus with one live 'baby'.)
S There's one that's **TRANSPLANTABLE**. [age 11]

(Looking at man flying model aeroplane.)
N It's a glider but it's got **a CONTROLLABLE rudder** - he's able to control it. [age 13]

(N & S playing video game.)
S You haven't got any arrows left.
N They're **INDISPENSABLE**, too. [age 11 & 13]

(N. trying to pull weed from underneath bush.)
N Bloody hell - it's **INACCESSIBLE**! [age 13]

(N and S watching Robocop 2)
M Why do they keep shooting him if he can't die?
N. After a while he'll become **SUSCEPTIBLE to fire**. [age 13]

One of the earliest examples of metaphor in Stefan's written texts is contained in a note stuck to his door after a fight:

*YOU WILL FIND ME **UNACCEPTABLE** IN ALL THINGS [age 7]*

... perhaps another example of the 'trailer' strategy, where, in an attempt to sound dignified, Stefan overstretches himself.

There are few examples in the core written data:

and it is **POSSIBLE** that not many people will come to see it. [age 9]

Vladimir Vostov, the most **LIKELY** to win the election, said [age 11]

it is most **PROBABLE** that the chamber should expand or contract [age 12]

The **RECOMENDED** serving is about 200 g at the least every day. [age 12]

The **RECOMMENDED** daily intake is about 200 grams per day. [age 12]

or contract in our day to day range of temperatures or **CONSTANT** changing pressure. [age 12]

He made it **COMPULSORY** for convicts to go to church. [age 13]

The main factor for the **CONSTANT** criticism is due to Macquarie's mismanagement and his policies. [age 13]

(See Appendix B for full listing of instances of this sub-type found in the data.)

	Age 5	*Age 6*	*Age 7*	*Age 8*	*Age 9*	*Age 10*	*Age 11*	*Age 12*	*Age 13*
Instances in the data	0	0	0	0	1	0	1	4	2
Total number of clauses	*73*	*441*	*183*	*285*	*694*	*1433*	*932*	*1638*	*966*
Percentage	*0%*	*0%*	*0%*	*0%*	*.14%*	*0%*	*.1%*	*.24%*	*.2%*

Table 6.23: Percentage of 'modality/modulation of process : quality' in the data

IIg circumstance : quality

IIg	circumstance > circumstance : quality/class	prepositional phrase/adverb > noun premodifier	[acted] brilliantly > brilliant [acting]; [argued] for a long time > lengthy [argument]; [cracks] on the surface > surface [cracks]

The written core data contains several instances of this category, exemplified by the following:

Have **WEEKLY meetings** with the director [age 9]
['Have meetings every week with the director']

During those eight years **the GOLD mining sight** has changed alot not only with machinery but also with the population. [age 10]
['During those eight years the site where they mined for gold has changed ...']

he did **no MANUEL work**. [age 11]
['he didn't work with his hands']

Archeologists have found **some MARINE life** [age 12]
['Archeologists have found some life from the sea']

The HORSE drawn cart comes along with candles mounted [age 12]
['The cart drawn by the horse comes along with candles mounted']

This was what Lachlan Macquarie did as the fifth governor of NSW, during **the longest period of ONE-MAN rule in Australian history**. [age 13]
['...during the longest period of rule by one man in Australian history']

but his sentence was reduced to **LIFE imprisonment.** [age 13]
['but his sentence was reduced to imprisonment for life']

(See Appendix B for full listing of instances of this sub-type found in the data.)

	Age 5	*Age 6*	*Age 7*	*Age 8*	*Age 9*	*Age 10*	*Age 11*	*Age 12*	*Age 13*
Instances in the data	0	0	0	0	3	2	11	20	21
Total number of clauses	*73*	*441*	*183*	*285*	*694*	*1433*	*932*	*1638*	*966*

Percentage	*0%*	*0%*	*0%*	*0%*	*.43%*	*.13%*	*1.18%*	*1.22%*	*2.17%*

Table 6.24: Percentage of 'circumstance : quality' in the data

IIh relator : quality

II h	relator > relator : quality	conjunction > adjective	before > previous

Only one instance could be found in the data:

where in **the ENSUING fight** Martin Cash shot Constable Winstanley through the left breast. [age 13]

	Age 5	*Age 6*	*Age 7*	*Age 8*	*Age 9*	*Age 10*	*Age 11*	*Age 12*	*Age 13*
Instances in the data	0	0	0	0	0	0	0	0	1
Total number of clauses	*73*	*441*	*183*	*285*	*694*	*1433*	*932*	*1638*	*966*
Percentage	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*.1%*

Table 6.25: Percentage of 'relator : quality' in the data

Summary of ‘shift to quality’

	Age 5	*Age 6*	*Age 7*	*Age 8*	*Age 9*	*Age 10*	*Age 11*	*Age 12*	*Age 13*
Instances in the data	0	2	1	1	8	25	43	67	53
Total number of clauses	*73*	*441*	*183*	*285*	*694*	*1433*	*932*	*1638*	*966*
Percentage	*0%*	*.45%*	*.54%*	*.35%*	*1.15%*	*1.74%*	*4.61%*	*4.09%*	*5.48%*

Table 6.26: Summary of 'shift to quality'

6.3.3 III. SHIFT TO 'PROCESS'

As with the other types of experiential metaphor, this third major grouping can be further subdivided into a range of subtypes:

#	semantic shift	class shift	example
IIIa	circumstance > circumstance : process	be/go + preposition > verb	be about > concern; be instead of > replace; comes after > follows
IIIb	relator > relator : circumstance	conjunction > verb	and > complement; then > follow; so > lead to ; by > enable; because > cause; while > overlaps; whereas > contrasts with; like > resembles, etc
IIIc	process type A > process type B	verb A > verb B	On the fifth day they **arrived** at the summit > The fifth day **saw** them at the summit
IIId	conation > conation : signifying process	phase verb > verb	are able to; can > know how to

Table 6.27: 'Shift to process'

IIIa circumstance : process

III a	circumstance > circumstance : process	be/go + preposition > verb	be about > concern; be instead > replace; comes after > follows

This category has been discussed previously (see Section 6.2.3) as a protometaphorical strategy. It is included here as a relatively low level class of metaphor.

The following are the only instances found in the data:

I **would PREFER** [age 8]
['like better']

and normally **PREFER** rocky and hard places [age 10]
['like better']

Some of the arguments they had **CONCERNED** their lives [age 10]
*[cf age 9: This project **is about** what I discovered about Chinese history from one of the earliest remains ever found up to the present time.]*

But Egypt made the first thing that **RESEMBLED** paper hundreds of years before China even thought about it. [age 10]
['looked like']

He endeavoured **to SUBSTITUTE** beer [age 11]
['put instead']

to REPLACE the one that was built by Macquarie. [age 11]
['put instead']

he would have to find something that **would have SUBSTITUTED** for real currency. [age 11]
['put instead']

EMERGING from the subway station, [age 12]
['coming out']

Then suddenly the crowd **DISPERSED**. [age 12]

['broke up'/ 'went away']

as the air pressure **DECREASES** [age 12]
['becomes less']

and the general **RETREATS**. [age 12]
['goes away']

But his scrawny old uncle Ebenezer **OCCUPIES** the inn that David is to inherit - the House of Shaws [age 12]
['lives in']

ABSCONDING a second time [age 13]
['running away']

after I had **RECOVERED** [age 13]
['got better']

This further **INCREASED** over the next five years to 5 churches a week. [age 13]
['made more']

Antonio **REGAINS** some dignity, control, [age 13]
['gets back']

	Age 5	*Age 6*	*Age 7*	*Age 8*	*Age 9*	*Age 10*	*Age 11*	*Age 12*	*Age 13*
Instances in the data	0	0	0	1	1	3	3	5	4
Total number of clauses	*73*	*441*	*183*	*285*	*694*	*1433*	*932*	*1638*	*966*
Percentage	*0%*	*0%*	*0%*	*0%*	*.14%*	*.2%*	*.32%*	*.30%*	*.41%*

Table 6.28: Percentage of 'circumstance : process' in the data

IIIb relator : process

IIIb	relator > relator : circumstance	conjunction > verb	and > complement; then > follow; so > lead to ; by > enable; because > cause; while > overlaps; whereas > contrasts with; like > resembles, etc

Halliday (seminar handout[10]) refers to these as 'clausalised logical-semantic relations' and claims that in the English language there are some one to two thousand verbs which are metaphors for logico-semantic relations.

The following have been identified as sub-categories of this class (Halliday 1991b):

1) expressing external relations of the 'enhancing' type (cause, time, condition and manner)

   e.g. cause, lead to, produce, dictate, stimulate, demand, require, sustain, apply to, arise from, result from, be associated with, necessitate, follow, precede, anticipate, flow from, resemble, approximate to

2) expressing relationships of the 'extending' type (additive, replacive, adversative)

   e.g. accompany, complement, combine with, replace, alternate with, supplant, contrast with, distinguish, include, extend to, cover

3) expressing relationships of the 'elaborating' type (expounding, exemplifying or clarifying)

   e.g. be, form, equal, represent, constitute, comprise, exemplify, embody, correspond to, serve as, add up to, amount to, consist of

[10] Macquarie University seminar, 1994

4) expressing cause together with a specific effect that is being brought about

e.g. speed up, increase, diminish, improve, encourage, obscure, preclude, distort, favour, allow for

5) expressing that the process referred to takes place

e.g. occur, develop, take place, eventuate, be manifested, supervene, be occasioned

6) expressing 'internal' relationships in the sense that they construe a relationship between processes as links in a chain of explanations: thus, internal to the discourse, as distinct form causal relationships between one phenomenon and another

e.g. prove, show, predict, illustrate, demonstrate, suggest, attest, imply, indicate, explain, confirm, verify, determine

Examples from the core written data include:

I **MADE** everyone scream. [age 6]

we **GOT** some one to be blindfolded [age 8]

but this expansion **LED TO** too much responsibility [age 9]

This **MEANT** that one train could not cover all the distance from Victoria to Queensland in one go [age 10]

CAUSING expansion and contraction. [age 11]

FORCING children to receive their early education at home either from their parents or from a tutor [age 12]

[and this] **CONTRIBUTED** to more expensive buildings being built. [age 13]

(See Appendix C for full listing of instances of this sub-type found in the data.)

	Age 5	*Age 6*	*Age 7*	*Age 8*	*Age 9*	*Age 10*	*Age 11*	*Age 12*	*Age 13*
Instances in the data	0	1	0	1	6	4	11	9	12
Total number of clauses	*73*	*441*	*183*	*285*	*694*	*1433*	*932*	*1638*	*966*

Percentage	*0%*	*.22%*	*0%*	*.35%*	*.86%*	*.27%*	*1.18%*	*.54%*	*1.24%*

Table 6.29: Percentage of 'relator : process' in the data

IIIc process type A > process type B

IIIc	process type A > process type B	verb A > verb B	On the fifth day they arrived at the summit >The fifth day saw them at the summit

The following are the only examples of this category to be found in the data:

and it's crying **REACHED** the ears of the feared sailors [age 7]

I was paralysed by the sound which had just **HIT** my ears, the unmistakeble voice of Aunt Agatha Augustus and Uncle Urvine Urine. [age 11]

when my eyes **FELL** upon the only photo that I ever owned of my dearest parents. [age 11]

which made us **FALL** upon a large camping pot which had small dints on the side .. [age 11]

What followed could **SEE** the changing of dress attire at school. [age 13]

	Age 5	*Age 6*	*Age 7*	*Age 8*	*Age 9*	*Age 10*	*Age 11*	*Age 12*	*Age 13*
Instances in the data	0	0	1	0	0	0	3	0	1
Total number of clauses	*73*	*441*	*183*	*285*	*694*	*1433*	*932*	*1638*	*966*
Percentage	*0%*	*0%*	*.54%*	*0%*	*0%*	*0%*	*.32%*	*0%*	*.1%*

Table 6.30: Percentage of 'process type A > process type B' in the data

IIId conation : signifying process

IIId	conation > conation : signifying process	phase verb > verb	are able to; can > know how to

No instances of this type were found in the data.

Summary of 'shift to process'

	Age 5	*Age 6*	*Age 7*	*Age 8*	*Age 9*	*Age 10*	*Age 11*	*Age 12*	*Age 13*
Instances in the data	0	1	1	2	7	7	17	14	17
Total number of clauses	*73*	*441*	*183*	*285*	*694*	*1433*	*932*	*1638*	*966*
Percentage	*0%*	*.22%*	*.54%*	*.70%*	*1%*	*.48%*	*1.82%*	*.85%*	*1.75%*

Table 6.31: Summary of 'shift to process'

6.3.4 IV. SHIFT TO 'CIRCUMSTANCE'

In this type of experiential grammatical metaphor there is only one sub-type.

IVa relator : circumstance

#	semantic shift	class shift	example
IV	relator > relator : circumstance	conjunction > prepositional phrase	so > as a result; because she didn't apply herself > through her lack of application

No instances were found in the data of this sub-type.

Summary of all instances of experiential grammatical metaphor in the written core data

The following table summarises the preceding tables, consolidating all the findings in the data of various types of experiential grammatical metaphor.

	Age 5	*Age 6*	*Age 7*	*Age 8*	*Age 9*	*Age 10*	*Age 11*	*Age 12*	*Age 13*
Instances in the data	2	10	9	11	82	146	208	263	238
Total number of clauses	*73*	*441*	*183*	*285*	*694*	*1433*	*932*	*1638*	*966*
Percentage	*2.73%*	*2.26%*	*4.91%*	*3.85%*	*11.81%*	*10.18%*	*22.31%*	*16.05%*	*24.63%*

Table 6.32: Summary of all instances of experiential grammatical metaphor

The findings could usefully be represented in the form of a graph:

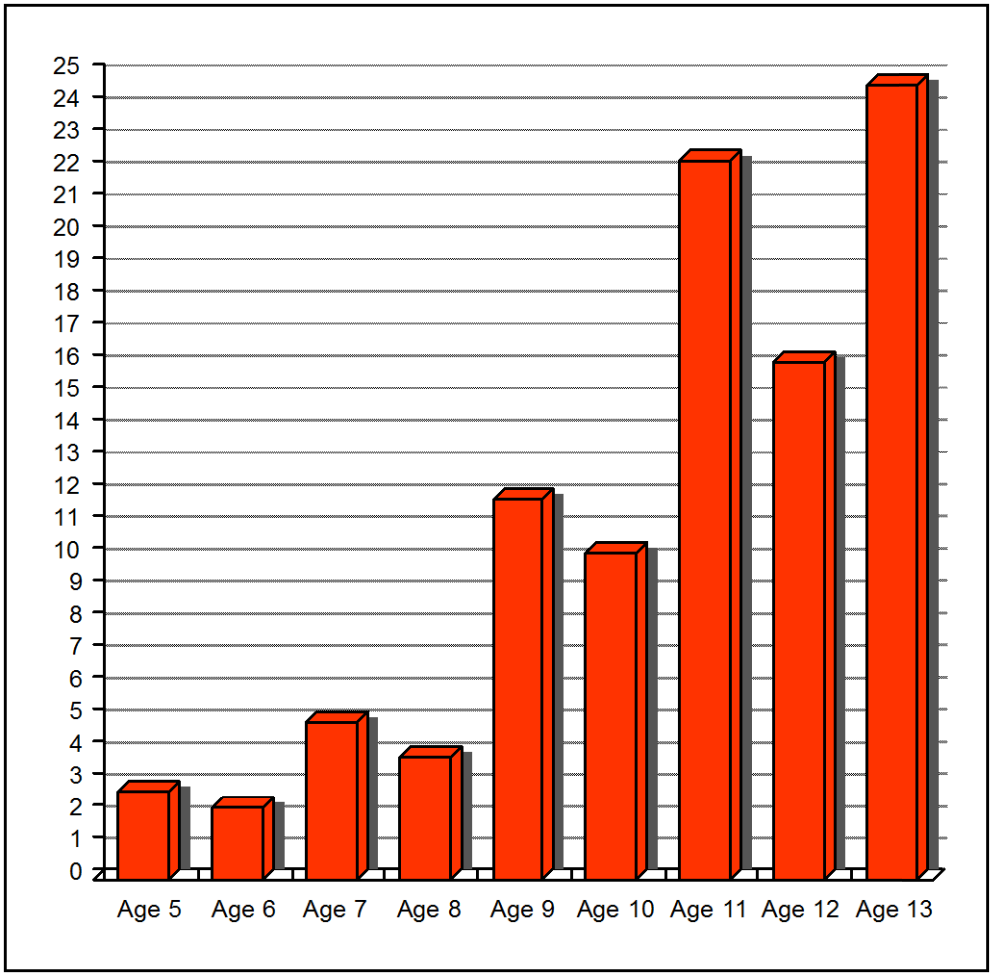

Figure 6.3: Percentage of instances of experiential metaphor per age group in the written core data

It is obvious from both the table and the graph that there is a an increase in Nick's use of grammatical metaphor between the ages of 5 and 13. The nature and significance of this increase will be discussed in the concluding section of this chapter.

6.4 DISCUSSION

From the above evidence we can confirm Halliday's suggestion that grammatical metaphor is a feature which is more characteristic of the language of adolescence than of earlier childhood, that is, that the congruent is ontogenetically prior to the metaphorical.

When we examine the detail, however, some interesting questions are raised. It is certainly not a matter of a dramatic increase at puberty. Rather we observe a relatively steady, though uneven, progression from the earliest texts through to the later. The earlier instances could be explained in terms of Halliday's notion of 'trailer' strategies where the child ventures beyond his or her current ability and anticipates a future developmental step. Many of the examples in these early texts are also of a relatively 'low level' type of metaphor - Process+Range constructions, formulaic expressions, and the like.

At age 9, however, we find an unexpectedly marked increase in the use of grammatical metaphor. This would appear to contradict Halliday's assertion that grammatical metaphor is related to the onset of puberty and entry to secondary education.

The unevenness of the growth could be attributed to the influence of context. The expectations of the teacher in any particular year could be seen as significant. In the primary years, certain teachers displayed 'child-ist' tendencies in terms of what they felt children should and could be writing, while others were quite demanding and challenged the students to write more mature texts. The amount of writing undertaken doesn't appear to have been a significant factor in the development of metaphor. At ages 6, 10 and 12 in particular, Nick wrote copiously with no corresponding increase in the incidence of grammatical metaphor. More important would appear to be the nature of the writing tasks. It is more likely, for example, that we would find instances of metaphor in texts dealing with abstract or technical fields rather than in narratives, recounts, procedures and the like which tended to predominate in certain years. Exposure to written texts containing grammatical metaphor could be another significant variable, and the degree of engagement with such texts. As mentioned earlier, Nick at age 9 undertook an unusually substantial project for a child of this age in writing a multi-chapter historical account of Chinese history. The type of genre, the expectations of his teacher, the number of redraftings, the nature of the source materials, and the effort expended could all have contributed to the unusually high proportion of metaphorical instances at that age.

Of minor interest is the 'step-back' pattern of growth, with a spurt in one year being followed by a decrease in the next. This could suggest a process of growth preceding a period of consolidation, though further studies would need to be undertaken to confirm this.

Of greater significance than the uneven pattern of growth over the years is the uneven development between different types of metaphorical categories:

	Age 5	*Age 6*	*Age 7*	*Age 8*	*Age 9*	*Age 10*	*Age 11*	*Age 12*	*Age 13*
'quality:thing'	*0%*	*0%*	*0%*	*0%*	*2.16%.*	*.2%*	*1.28%*	*1.46%*	*1.96%*
'process:thing'	*2.73%*	*1.58%*	*2.73%*	*2.45%*	*5.47%*	*5.86%*	*11.05%*	*6.65%*	*14.38%*
'phase:thing'	*0%*	*0%*	*.54%*	*.35%*	*0%*	*0%*	*.1%*	*.18%*	*.2%*
'conation:thing'	*0%*	*0%*	*0%*	*0%*	*.14%*	*.06%*	*.85%*	*.3%*	*.1%*
'modality:thing'	*0%*	*0%*	*.54%*	*0%*	*.28%*	*.13%*	*.53%*	*1.03%*	*.41%*
'circumstance:thing'	*0%*	*0%*	*0%*	*0%*	*1.29%*	*.83%*	*1.28%*	*.79%.*	*.2%*
' pro+circ.:thing'	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*
'relator:thing'	*0%*	*0%*	*0%*	*0%*	*.28%*	*.83%*	*.75%*	*.67%*	*.1%*
'thing:class of thing'	*0%*	*0%*	*0%*	*0%*	*0%*	*.06%*	*.42%*	*0%*	*0%*
'thing:circ.quality'	*0%*	*0%*	*.54%*	*.35%*	*.57%*	*.41%*	*1.28%*	*1.28%*	*2.07%*
'thing:possessor'	*0%*	*0%*	*.54%*	*.35%*	*.86%*	*.76%*	*1.5%*	*1.28%*	*2.17%*
'process:quality'	*0%*	*.45%*	*.54%*	*.35%*	*.72%*	*1.46%*	*3.32%*	*2.63%*	*3%*
'phase:quality'	*0%*	*0%*	*0%*	*0%*	*0%*	*.13%*	*0%*	*0%*	*0%*
'modality:quality'	*0%*	*0%*	*0%*	*0%*	*.14%*	*0%*	*.1%*	*.24%*	*.2%*
'circ:quality'	*0%*	*0%*	*0%*	*0%*	*.43%*	*.13%*	*1.18%*	*1.22%*	*2.17%*
'relator:quality'	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*.1%*
'circ.:process'	*0%*	*0%*	*0%*	*0%*	*.14%*	*.2%*	*.32%*	*.30%*	*.41%*
'relator:process'	*0%*	*.22%*	*0%*	*.35%*	*.86%*	*.27%*	*1.18%*	*.54%*	*1.24%*
'process A:processB:	*0%*	*0%*	*.54%*	*0%*	*0%*	*0%*	*.32%*	*0%*	*.1%*
'conation:sig.process'	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*
'relator:circumstance'	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*

Table 6.33: Summary percentage of experiential grammatical metaphor in each category at each age

The data analysis, as illustrated in the above table, demonstrates earlier and greater use of types such as 'quality : thing', 'process : thing', 'process : quality', and 'circumstance : quality'. In other categories there is very little evidence of the development of grammatical metaphor (e.g. 'phase : thing', 'conation : thing', 'phase : quality', 'modality : quality', and 'relator : quality'). And in certain categories there was no evidence at all of metaphorical usage ('circumstance : thing', 'conation : signifying process', and 'relator : process').

In order to explain this phenomenon adequately, it would be necessary to look at the relative congruent frequency of use of each of these categories in the data and the motivation to metaphorise the different categories. It would also be informative to investigate the relative frequency of use of these categories in adult texts and to see whether Nick's rate of use reflected similar tendencies. In addition, a more protracted study of Nick's written language might have shown the development in later adolescence of certain types of grammatical metaphor. With such evidence, it might then be possible to speculate on whether certain types of metaphor develop later and if so, whether they constitute a more 'complex' type of metaphor.

The question of complexity, raised in Chapter 2, is beyond the scope of this study. In considering whether certain types of metaphor are more complex than others, however, we could refer to Ravelli's (1985) identification of two major types of complexity. Paradigmatic complexity is recursive in nature, involving the potential to pass through the network more than once to retrieve the congruent. Examples of this in the data would include:

> The Cultural revolution was meant to be **a time of MODERNISATION** [age 9]

where 'a time of modernisation' could be unpacked to 'when things were being modernised' and then taken a step further with 'when things were becoming more modern'. In a similar vein, the following nominal groups could go through at least two stages in their unpacking:

> **My OPINION on mountain CLIMBING** is that it is very dangerous. [age 10]
> *[> I think that mountain climbing is very dangerous.*
> *> I think that it is very dangerous to climb mountains.]*

> Even though the people are rejoicing at **the THOUGHT of Gorbachev's RESIGNATION** [age 11]
> *[> Even though the people are rejoicing when they think about Gorbachev's resignation.*

> *Even though the people are rejoicing when they think about the fact that Gorbachev is resigning.]*

The RECOMMENDED DAILY INTAKE is about 200 grams. [age 12]
[> It is recommended that the daily intake be about 200 grams.
> It is recommended that the intake each day be about 200 grams.
> It is recommended that you should take about 200 grams each day.]

Syntagmatic complexity on the other hand refers to those instances where the metaphorisation of one element co-involves the metaphorisation of other elements, resulting in a syndrome effect:

The main CRITICISM of him was **the ever increasing EXPENDITURES** on the colony. [age 13]
['They mainly criticised him because he kept on spending too much money on the colony.']

In the above example, when the process in the congruent version 'they mainly criticised him' ('criticism'), is nominalised, the elements 'him' and 'mainly' must also undergo a metaphorical transformation ('of him' and 'main'). A similar syndrome is found in the second nominal group, where metaphorisation of 'spending money' ('expenditure') necessitates the metaphorisation of 'kept on' ('ever increasing').

Martin (p.c.) sees metaphorical complexity in terms of an implication sequence ...

> ... where ideational implies experiential metaphor but not viceversa. I mean, to have a logical metaphor you must nominalise experientially around it so you could say that ideational metaphor, that is, logical and experiential, implies experiential metaphor - so that is a hierarchy in some sense. Ideational metaphor is more metaphorical than experiential metaphor.

Halliday (p.c.) agrees with this view, adding that complexity is itself a complex term - 'a lot of complexity is complexity as defined in terms of the theory, because after all there is no absolute, objective measure of simplicity or complexity'.

The issue of whether certain types of metaphor are inherently more complex, how this complexity is defined, and whether such types develop later in adolescence will need to be the subject of subsequent studies.

And finally, the data analysis has suggested that while grammatical metaphor is characteristic of adult texts in the written mode, it is in the spoken mode that much of the experimentation takes place. The oral data contains numerous instances where the boys are obviously 'having a go' in a context where they are not committing themselves in writing. At times they make explicit reference to their use of 'adult' language and sometimes they use highly metaphorical language when they want to send up pretentious conversation:

S. Mum would regular consumption of licorice be beneficial to one's health because of its laxative properties? For example in the prevention of bowel cancer ... no, hang on ... I've got the word - bowel disorders ... *[giggles]* oh piss off mum

M. Why did you say that?

S. I was being a snob. [age 14]

At other times they use it when they want to be taken seriously in the context of an adult conversation. At age 10, for example, Stefan senses frustration in his search for metaphorical variants of relational and mental processes as he discusses the nature of clones:

B: What's a clone Stef?

S: What scientists have discovered is that they can take a cell from a body and make an artificial human. And how many cells you take from it, that's how many artificial things you'd get. But they might not have the same intelligence and they might not have the same voice. And they might not have the same um...**likeness**, I mean **looking**....

B: Mmm, they might not look the same?

S: Yeah, because they could grow up differenter. More different. I don't know if they have got the same sort of you know, **what they want to do**. Because....

B: What would you call that? The same....?

S: The same.... I dunno what you'd call it. Maybe um....but I don't think they'd all grow up to be um.... murderers.... murderers even if it did come from a murderer.

B: Why's that?

S: Because they could grow up different with a different **liking**. Different **thing**!

And Nick at age 11 confidently rejects his father's more congruent formulation:

D: Yes. What would you say? A lot of... **we export a lot of**.....

N: We are also **a big exporter of natural gas**.

The use of oral metaphorical expressions is often accompanied by an 'unpacking', as if conscious of their incursion into adult territory:

N: Um, U.S.A, Canada and Sweden and China are very greedy, and U.K, West Germany, U.S.R, France are less greedy. Japan, Brazil, Iraqi, India are not greedy.

D: Greedy about what, Nick?

N: Um, **the energy consumption** per person. ***How much energy each person uses.***

In addition, the oral mode provides opportunities for adults to model the use of grammatical metaphor and provide a scaffold in a similar way that the caregivers of young children do:

M: Now, I just said 'this silly machine'. And Nick just said 'I know, it's **never reliable**'. Which is true, isn't it!

S: What?

M: This machine. ***You can't depend on it.*** [age 8]

The oral mode appears to provide an unthreatening context where children can be exposed to adult use of metaphorical constructions and can explore their own use of this type of language.

In summary, the data analysis confirms the 'overwhelming drift towards the nominal' as described by Halliday & Matthiessen (in press) in the following diagram:

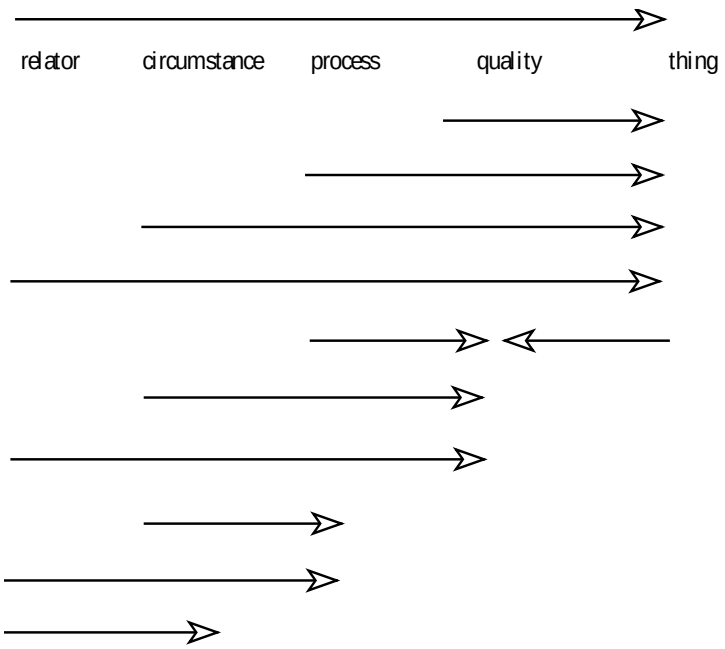

Figure 6.4 Direction of metaphorisation (from Halliday & Matthiessen (in press) p.193)

The diagram illustrates how, except for one instance, the process of metaphorisation is always in the direction of the nominal, contributing to a 'thingised' representation of experiential reality and entailing 'a change in world view, towards a static, reified world' (Matthiessen 1993, p.6). The implications of such a process will be taken up in the concluding chapter.

CHAPTER 7

THE LOGOGENETIC INSTANTIATION OF GRAMMATICAL METAPHOR

This chapter continues the analysis of the data, but moves from the development of a taxonomy of grammatical metaphor and the quantitative analysis of the ontogenetic growth of these different categories of metaphor to a more qualitative discussion of the development of certain types of metaphor which are integral in the shift into the uncommonsense language of secondary school.

Two of the major functions of grammatical metaphor are (a) the way in which it acts to construe the experiential world in nominal terms (as demonstrated in the previous chapter on the ontogenetic development of grammatical metaphor), and (b) the way in which it functions textually in the construction of the clause as message, making it possible to foreground and background certain elements of the clause (as discussed in Chapter 5 in relation to the phylogenetic evolution of grammatical metaphor).

This chapter will firstly examine the ways in which grammatical metaphor is implicated in the development of particular types of experiential meaning which are valued in secondary school - the technical meanings characteristic of the different disciplines, and the cross-disciplinary abstractions. Secondly, it will examine the ways in which grammatical metaphor plays a textual role, enabling the structuring of argumentation in a particular way.

The discussion will take a logogenetic perspective, examining the build-up of experiential and textual linguistic resources both in the shorter term within a single text and in the longer term over a series of related texts. The chapter will illustrate how logogenetic processes are involved in the child's development and use of grammatical metaphor in its experiential and textual roles. Logogenesis involves the building up of instantial systems of co-dependency in the text. Halliday (1989b) describes logogenesis as 'how the grammar of the text unfolds' (p.10). In this sense, the chapter will explore the unfolding of the

experiential grammar and how the experiential meanings involving grammatical metaphor are being developed with the guidance of an adult, and the unfolding of the textual grammar of the text and how these are also facilitated by adult intervention. The analysis will look at logogenetic development of grammatical metaphor within the one text (intratextual development) and at logogenetic development over a series of closely related texts (intertextual development) - in terms of both the changes between drafts of the text and the interaction surrounding the production of the text.

Having examined the logogenetic development of experiential and textual metaphor, the chapter concludes with an analysis of three texts representative of three phases in Nick's writing, looking at the role of grammatical metaphor in construing a particular experiential reality and in providing resources for the textual structuring of that reality.

The analysis will draw on the linguistic theory of learning discussed earlier, arguing that it is in the minutiae of intertextual and intratextual encounters that familiarity with these resources is engendered. Such familiarity is enhanced, however, not only through engagement with relevant written texts and with adult models, but also through explicit adult intervention in the drafting process.

In carrying out a qualitative analysis, it is necessary to recognise that a text is a highly complex phenomenon, the product of a highly complex ideational and interpersonal environment (Halliday 1985a). There is no neat formula that will produce an objective account of the text:

> ... a text analysis is a work of interpretation. There are relatively few absolute and clearcut categories in language; there are many tendencies, continuities, and overlaps. Many actual instances can be analysed in two or more different ways, none of which can be ruled out as impossible; some may be less sensible than others, and so can be discarded, but we may still be left with valid alternatives. (Halliday 1985c, p.54)

In a systemic analysis, however, the work of interpretation is underpinned by an analysis of the lexicogrammatical features. In a systemic model, as mentioned previously, discourse semantics and lexicogrammar stand in a realisation relationship in such a way that the study of discourse cannot be separated from the study of the grammar that lies behind it. (Halliday, 1985a). So while acknowledging the indeterminate nature of interpretation, a

systemic analysis, grounded in the lexicogrammar, does go beyond the intuitive level of much discourse analysis.

7.1 THE ROLE OF GRAMMATICAL METAPHOR IN THE DEVELOPMENT OF EXPERIENTIAL RESOURCES

Grammatical metaphor involves a 'skewing' of the relationship between the semantics and the lexicogrammar. This skewing could be said to engender a more complex understanding of the world, with experiential meanings being realised not in their congruent form with a one-to-one relationship between the semantics and lexicogrammar but in a 'distilled' form, where the lexicogrammar realises a complex semantic entity. The following section will discuss grammatical metaphor as an indicator of linguistic development in the experiential domain. It will first consider the role of grammatical metaphor in the construction of technicality and will then move on to consider the role of grammatical metaphor in the construction of certain types of abstraction.

7.1.1 Technicality

In the transition to secondary school, the child is confronted with the compartmentalisation of knowledge into specific disciplines. The way in which each discipline seeks to come to an understanding of the world is reflected in the language which characterises that discipline. Perhaps the most evident of these language characteristics is the use of terminology which is specific to a particular discipline. Martin (1990) indicates the role of such technicality in the field of science:

> ... the fact is that scientists simply cannot do their job without technical discourse. Not only is it compact and therefore efficient but, most importantly, it codes an alternative perspective on reality to commonsense, a perspective accumulated over centuries of scientific enquiry. It constructs the world in a different way. Science could not be science without deploying technical discourse as a fundamental tool. (p.86)

A major task, therefore, in the secondary school is to develop control over the technical language of particular subjects. Technicality is one of the most critical steps in the shift from the commonsense.

Technicality is concerned with language which is field specific:

> The difference between a technical term and a vernacular or everyday term is that TECHNICAL TERMS are given *field specific meaning.* (McInnes & Drury 1992, p.11) *(typescript as in original)*

Technical language can range from labels for apparatus through to the language of abstract theorising. At the least sophisticated level, we find specialist names associated with the technology of the field, as exemplified in this excerpt from the data:

> HOW IS PAPER MADE?
>
> 1) The wood is cut down
> and taken to the **pulp mills.**
> This is where the main problem begins
> because so many trees have to be cut down
> to go to the pulp mill.
> 2) The pulp mill is where the wood is made into wood chips.
> 3) The wood now goes into the **stock chest**
> where the **woodchips** are broken down into a mush
> and water is added to it.
> 4) Then the **feeder box** spreads a thin sheet of pulp over the gauze
> and levels it
> so that there are no big lumps.
> 5) The **gauze bed** lets the pulp get rid of any excess water by a gravitational pull.
> 6a) The **couch** is a special cloth that is very absorbent
> so that it absorbs some water that didn't drip off on the **gauze bed**.
> 6b) Now that the **gauze bed** and the **couch** have done their job
> it is up to the **pressure rollers**
> to turn the moisturised pulp into paper form.
> There are normally four double rollers.
> 7) The **heat rollers** make the paper ready for cutting up
> because it is also giving it a final roll. [age 10]

But it is not simply the conferring of field specific names which builds the technicality. The phenomenon in question must be defined to the point where it is unambiguous and unique to the field in question, as illustrated in Nick's early attempts at definition:

> WHAT IS A **LEVER**?
>
> Dictionary definition: a bar which helps you to move something heavy, a crowbar
> Personal definition: My personal definition of a lever is something that can prise up something but the lever can only work if it has a fulcrum [age 10]

> **Cassowaries** are flightless birds.
> They are related to the emu and are recognised as "ratite birds". [age 10]
>
> The Egyption paper was made out of papyrus reeds, shredded and beaten so it was flat. This kind of paper was given the name of a **Papyrus Scroll**. [age 10]

As Martin (1989) points out, definitions translate common sense into specialised knowledge. More significantly, however, the phenomenon needs to be seen not as an isolate but in a systematic relationship to other elements of the theory. One of the primary mechanisms for defining the field specific meaning of any phenomenon is to establish its valeur through taxonomic relationships - either of composition or superordination. In Nick's texts we find, for example, the following composition taxonomy from the field of history:

> The castle has many **PARTS** example for the **keep**, **baily**, **gatehouse**, **court** and the **inner Baily** and **outer Baily**. [age 8]

Unlike the composition taxonomy, which talks of the relationship of parts to whole, the superordination taxonomy describes the relationship between class and sub-class, as in the geology excerpt below:

> There are **FOUR MAIN KINDS** of coal that are mined: **anthracite** found in the U.K., **bituminous black coal** found in N.S.W., Qld, S.A., **brown coal** found in Vic. and **peat coal** found in Ireland. [age 10]

The terms above, however, are still simply specialist names - field specific labels for concrete phenomena. We could, in fact, refer to these as ‘technological’ rather than ‘technical’. In moving to the more abstract phenomena of concepts, principles, theories, and the like, the language of technicalising becomes more complex. It is in the development of this sort of technicality that grammatical metaphor plays a significant part. In Halliday's words, 'Martin has argued convincingly that the technicalisation of discourse must depend on nominalisation and grammatical metaphor' (1990c, p.19).

Grammatical metaphor is implicated in the development of technical taxonomies in two ways. Firstly, in the formation of many of the words with classifying function (e.g. steam-driven locomotive - see previous chapter) and in the use of embedded defining clauses, (which could be regarded as protometaphorical, as discussed in Chapter 6). Secondly, grammatical metaphor is involved in the development of technical taxonomies inasmuch as

these are primarily concerned with entities and their relationships. In order to technicalise processes and qualities, they need to take on a thing-like status. Nominalisation (e.g. 'condensation', 'germination') allows them to participate in taxonomies and to enter into particular valeur relationships with other participants in the field. Once a phenomenon has been construed as an entity, it is able to enter as a participant into processes of different kinds and it can exploit the full potential of the nominal group in terms of being quantified, specified, described, classified, and so on.

It is arguable, however, whether such nominalisations can be considered 'truly metaphorical'. Whilst grammatical metaphor may be engaged in the initial technicalising process as the theory evolves (Halliday & Martin 1993), once a term has been closely defined and taxonomised, then the term is no longer metaphorical. It has become, in fact, simply a technical lexical item - a 'faded metaphor', where the possibility of a congruent and metaphorical interpretation is no longer an issue. When Nick, therefore, uses a technical term in a 'taken for granted' manner, this has not been counted as an instance of grammatical metaphor.

Halliday however makes the distinction between those technical terms in a text which have become institutionalised and whose meanings can be taken as 'given', and those terms whose meanings are being constructed in the course of the text. Halliday (1991b) describes the latter's status as technical terms as purely instantial - a function of the way the argument is progressing at that point. He suggests that we can think of such instances as 'being technicalised for the nonce', though such 'instantial' technicalisations may in time evolve into technical terms (Halliday & Martin 1993, p.14).

Although a technical abstraction, once fully established, might no longer be considered metaphorical, there is a period in its early phylogenetic evolution in which it retains its metaphorical force. It will be suggested in this section that a similar process takes place in the child's growth in control over technical terms, the initial unstable grasp of the term often remaining volatile until the institutionalised meaning is established. In this sense, many instances of 'technicality' in the data could be analysed as being metaphorical. This can be illustrated by the following excerpts, in which Nick [age 12] is seen coming to grips with the technicality of the subject English. In his first draft of a review of the book, *The Tinpot General and the Old Iron Lady*, dealing with the Falklands War, there is no technicality in describing the stages of the narrative (e.g. terms such as 'Orientation', 'Resolution'):

e.g.

> The story starts off as reality with the shepards and the island and the pictures portray that it is bleak, dark, wet and cold and then the tin pot general unreal all glamourous and Powerfull.
>
> Eventually the old woman wins the little skirmish betwen powers and the general retreats. But then the story shows the price that was paid just for the glory of power all the men dead, disfigured, injured. Celebrations take place and the dead soldiers are buried in great cemetries.

This draft was then the subject of discussion between Nick and myself. The technical terms associated with the schematic structure of the narrative genre were modelled along with the 'congruent' version:

Excerpt from data	**Commentary**

M:	We've got in the beginning our **orientation**. What happens in the **orientation**?	*M. deliberately introduces technical term 'orientation', linking it with 'beginning'.*
N:	Well, it introduces us to a little island which is all sad and has got a very bluish picture; it is depicted as rather sad and always overcast and depressing and then we're not given a time or a place although we do know it is the Falklands War, it could be any way; it could be the Iraqi War; you could make it that the island is Kuwait and the Tinpot Foreign General is Saddam Hussein and George Bush can be the lady.	*N. demonstrates understanding of the term 'orientation' by commenting on the author's clever use of vagueness in terms of time and location.*
M:	So it's deliberately vague so it applies to any war at any time.	
N:	Yes, but we still do know that it is the Falklands but no child is going to pick that up.	
M:	So that's what is happening in the **orientation**, we are introduced to a sad little island, long, long ago...	*M. summarises the main elements, re-introducing the term 'orientation'*
N:	The shepherds and the sheep...	
M:	What happens to **complicate** their lives?	*M. introduces the notion of 'complication' in the congruent form*
N:	Well, the General comes along and says "me bags the island" and the old lady has already bagsed it so they have a little argument about "I bagsed it first it was mine, mine, mine I did it ages go".	*N. identifies complication*
M:	Okay, so what would you say is the **complication**?	*M. introduces term 'complication*
N:	Well, the **complication** is that the General comes along and "bags" it from the old iron woman who has already "bagsed" it.	*N. uses term and indicates comprehension*
M:	That's right And how does the problem get **resolved**? What would you say is the **resolution** from the point of view of Mrs. Thatcher?	*M. introduces notion of 'resolution' in congruent then nominalised form.*
N:	Well, she's got the glamour, she's got all the power, now she's got the fame, she's beaten poor old Argentina here and so now she's got the island back and her people are going to look up to her because she can do something now.	

Excerpt from data		Commentary
M:	So that could have been the end of the book couldn't it? That could have been the **resolution** of the war, Mrs. Thatcher won. Is that where the book finishes?	
N:	No it goes on to say that this is what also happened; not only did Mrs. Thatcher win; the island was destroyed and was devastated and it's no longer what it used to be.	*N. explains resolution from point of view of Margaret Thatcher*
M:	So we have **a different resolution.**	*M. links technical term 'resolution' with its non-technical use*
N:	Yes, this is from the point of view of the people who were in the middle of it. They didn't have anything to do with it yet they were affected. And then we got it from the soldiers point of view.	*N. identifies how the problem is resolved from another point of view*
M:	So we have **another resolution.**	*M. summarises with technical term*
N:	All their friends who were killed and so on and then at the end of that we go back to winning again and then we've still got	*N. identifies a further resolution.*
M:	It finishes up with the families of the dead soldiers and the wounded soldiers..	
N:	Watching it on television and visiting the graves.	
M:	So it's a very interesting way that it has **a number of resolutions** depending on who is looking at it from what perspective. So that makes it a very interesting book doesn't it. It shows that there's no one way....	*M. again summarises with technical term*

Nick and his brother began to use these terms themselves in an ensuing discussion of a movie they had just seen:

M: Stef, can you tell me what was the **complication** in the film and how it was resolved?

S: The **complication** was Sam had been killed and he was stuck in between the world of earth and heaven and he can't get out. He started helping people even more and he just did good things for the church and everything; he finally he got into heaven.

M: What about you, Nick?

N: Well, my **complication** was that Sam made a promise that he would always love and protect Mary, ... and so it's just showing how he has kept his promise and how he did protect Mary and he got revenge.

M: What made you decide that that was the **complication**?

N: Well, it shows that in the movie because he did protect Mary, he tried to get her out of danger and when she was in danger, he helped her and he didn't like his friend trying to go out with his girlfriend, with his wife, so he got rid of him and that says that he loved her and protected her.

S: Was the promise the **complication**? That's what you're saying.

M: Would you agree with that Stef?

S: Nick we're talking about **the main complication**.

M: What would you say is **the main complication**?

S: He couldn't get into heaven, he was just stuck on earth as a spirit.

Eventually the terms were being used quite freely (and even playfully) without any prompting from an adult, as when Nick asked to be allowed to stay up and watch how a movie finished on television:

N: Oh, can I stay up and watch it because I want to see how it ends and the purpose... the reasons for it.

S: Ah, you mean the **resolution**!

In the final draft of his book review, Nick was comfortably using technicality:

> We are introduced in the **orientation** to a little island inhabited by a few shepards somewhere down south at some time or other. .....
>
> The **resolution** to the islands problems is seen in several ways depending on the different points of view of those involved. One by the Iron Woman and general in terms of power and nationalism. By power the general is defeated and loses power and the Iron Woman claims power, control, wealth and victory. Then it is seen by the soldiers who did the work, who died, drowned, were blown to bits and partly blown to bits all for the glory of their country. We also see it from the point of view of the shepards who are affected because they were caught in the middle of it all.

The above series of texts exemplifies what might be called intertextual logogenesis:

> There is obviously a great deal of indeterminacy in what constitutes a single text; and texts are not isolated from one another, but often unfold in series. This last observation relates to the notion of inter-textuality ... Logogenetically, the instantial system may be part of a logogenetic series, as in a series of lectures, a series of breakfast conversations, a series of gossip sessions in the workplace: when a system is instantiated for an individual text to create an instantial system, it may be instantiated against the background of previous 'instalments'; and it may itself provide the background for future ones. (Matthiessen 1994, p. 23)

Seen as an 'extended text', the experiential meanings in the drafts accumulate as the text develops. Between the non-technicality of the first draft and the technicality of the final draft, an understanding of the technical terminology was built up in the oral mode. We could say that during this transitional phase, when the technicality is still not fully established, there is sufficient 'semantic play' that we could call the technical terms metaphorical. The oral conferencing eventually spilled over into the written mode where we could say that the technicality by this stage was well-established and non-metaphorical.

Other instances in the data suggest that Nick's apparent grasp of a technical term was only superficial. Again, grammatical metaphor can play a role in re-establishing the technicality on a sounder footing. A common phenomenon in the learning of technical terms is that the learner assimilates them as formulae without understanding their true significance. As illustrated by the following transcript, Nick [age 10] has been taught at school that the beginning stage of a Report is called the 'General Classification Statement'. Upon questioning, however, it appears that he does not understand the function which that term implies - that is, that (according to Martin and Rothery) this stage of the Report functions to classify the phenomenon in question. By probing Nick's use of the term and problematising its definition, his understanding of its meaning is 'unsettled'. It could be argued that in this unsettling process, the technicality is in flux for the learner, opening up a degree of stratal tension and therefore the possibility of being metaphorical. The transcript is quoted at length in order to demonstrate the shifts between formulaic use of the technical term ('general classification statement') and attempts at unpacking the term 'classification' in order to rebuild the technicality on a sounder basis. We therefore find a pattern of 'false technicality' being probed by 'instantial technicality' (involving grammatical metaphor) in order to establish 'true technicality'.

The first part of the transcript is taken from a session where the genre is being modelled. Nick had to write a Report on 'Paper', so we began by looking at a similar Report on dinosaurs. The transcript, though edited, is presented at length in order in order to demonstrate the logogenetic build-up of experiential understandings:

Excerpt from transcript	Commentary
B. Okay then ... the title - first of all we've got to say what we're talking about. And then a **general statement**.	*Term 'general statement' introduced in a semi-technical way*
N **General classification sentence**.	*N. substitutes technical term learnt formulaically at school*
B. Good, right, so if you're talking about dinosaurs what sort of **general statement** would you have.	*M. persists with 'general statement'*
N. **General classification sentence**.	*N. repeats formulaic term*
B. Yeah!	
N. Um I'd have 'Dinosaurs have been... were on this earth long ago'. No um. 'Dinosaurs where the inhabitants of our earth millions of years ago' something like that. It's just to tell you what dinosaurs are or... 'Dinosaurs are big scaley carnivores' and whatever it is.	*N. provides possible 'general classification statement' which doesn't in fact classify dinosaurs*
B. And herbivores as well some of them.	
N. Yeah and plant eating ones.	
B. Herbivores.	
N. You just give a **description** of what the animal might be like.	*N. identifies function of introduction as 'giving a description'*
B. Okay so the first thing that you do ... a **general statement**.	*M. reverts to term 'general statement'*
N. Yeah!	
.....	
B. The next part in the dinosaur report is the **general statement**. Do you like **general statement** best, or **general classification sentence**.	*Starts to explicitly deal with difference between 'general statement' and 'general classification sentence'*
N. Well I've I've learnt it with Mr. S. - **general classification sentence**.	*N. states preference for 'general classification sentence'*
B. Which one do you think is clearer?	
N. Because **general statement** ... it doesn't give a specific thing. It might... But in our class we've learnt to put a **classification** of what you're doing in one sentence. So you call it a **general classification sentence**. And then you go in to all the little details - the types and all the other stuff.	*Justifies preference by stating that the opening sentence of a report should classify. Starts the 'unpacking' process by taking 'classification' out of its formulaic context, then re-inserting it*
B. Right! So do you think it's clearer for people to say **general classification ...**? Do you think **general statement** is just too broad. It doesn't give them an idea of what to do?	

Excerpt from transcript	Commentary
N. It's an overall view in a way. 'Cause it's sort of a statement ...could be in a book ... or a statement on what has been done. In a report it could be a paragraph stating about something like um 'dinosaurs....'	
B. But what if the introductory part of the report doesn't **classify** the thing that you're talking about? What if it says um like you said 'Dinosaurs were on the earth millions of years ago'? Now that's not really **classifying** the dinosaurs, is it?	*Deconstructing the formulaic technical term by unpacking to congruent form ('classify')*
N. No!	
B. The second one that you said was more of a **classification**. So what if you wanted to begin your report with something that wasn't a **classification**?	*Congruent becomes metaphorical (instantial technical term)*
N. Well!	
B. Well um! The term **general classification** means that you are **classifying** the thing, right? What do you think the word **classification** means?	*Unravelling technical term by linking it to the congruent form*
N: Ah, **it classifies all the other ones out. It's the only one that give a clear meaning of the thing. It's the exact word**...	*N. moves to the congruent ('classifies')*
B: So if I asked you to **classify** something, say for example, if I asked you to **classify** dogs, how would you do it? If I asked you for a **classification** of dogs, what would you do?	*M. stays with the congruent, then moves to the metaphorical ('classification')*
N: Dogs overall?	
B: You know why I'm asking you?	
N: No.	
B: Because it's a very important word, **classification** and it's a very important thing to know how to do. Especially in high school, to **classify** things, and I think that the way that Mr S.is using that word, is not quite the same as in High School. To **classify** things in High School, means to put them into **groups**.	*M. shifts between the nominalised 'classification' and the congruent 'classify'*
N: **Categories**.	
B: To sort them out into **categories**, that's right. So..	
N: Yeah, well that's another way of **classifying** ... like having short dogs, long dogs, tall dogs.	*Indicates understanding of 'classifying'*
B: Ahuh. Right.	
N: Hairy dogs. Long tongue dogs. Long eared dogs, long tailed, short tailed, stubby.	

Excerpt from transcript	**Commentary**
B: Mm. That's right. Right, so you've got the idea of **classification**.	*M. shifts to metaphorical form*
N: Yeah.	
B: So, I think that what they're talking about with an **opening classification** or a **general classification statement** is putting the thing that you're talking about into its bigger group. So you might want to say that dogs are a type of mammal.	*M. shifts to technical term*
.....	
B. Now do you always start off a report by **classifying**?	*Problematising the use of the term*
N. It's better to because that gives the reader ...he might be looking for a topic on dinosaurs but he doesn't know exactly what your report is about so, so it would be easier for him just to read the first sentence and find out what it is about. Then rather than read the whole report ... and it might be a pretty long report.	*Attempt at justification, but doesn't include the need to 'classify' suggested by the technical term*
B. But you could just look at the title to find out what the report is about.	
N. Yeah but it might be dinosaurs and might go into particular sorts of dinosaurs like carnivores or herbivores or just the tyrannosaurus rex or something.	*Tries to show how some form of classification might be included*
B. But um if the report was looking at carnivores and herbivores then what would your **opening classification** be? Your **general classification.** What would you start off with?	*Further unsettles the formulaic interpretation by providing alternative terms*
N. Well I'd start off with um, it could be sort of like an introduction like 'Dinosaurs were both carnivores and herbivores and were big scaley creatures that lived more than a million years ago' ... something like that.	*Provides an example which is in fact more of a description that a classification, thereby confirming that he might not understand that 'general classificat'n statement' implies a classificatory function*
B. So you'd put all that information in?	
N Yes 'cause it gives you information about they were carnivores, they were herbivores, they lived millions of years ago. And there not miniature like creatures about this big are they. Some might have been.	
B. Which piece of information would you put first?	
N. Well really I'd put the big scaley ones first because the person might not have the view until it comes to that statement that piece of information that gives you the shape. Next part I'd have millions of years ago. And the other one ... what was that?	
B. Carnivores and herbivores.	

Excerpt from transcript	Commentary
N. And the next one carnivores and herbivores just to **classify** them and **put them in two groups.** B. Right, put them into two groups. And then that would also show how you were then going to organise the rest of the report, wouldn't it?	*Attempts to introduce an element of classification using congruent form ('classify', 'put into groups')*
N. Yeah that would be sort of like making part of the circuit. Like in a circuit you've got one line here and then it goes into to two because you've put something there and it's let off into two directions. One's the herbivores' direction, one's the carnivores' and they're going to go into maybe big and smaller groups and that makes a whole lot of new... it's sort of like a tree. B. Right N. A trunk and then goes into branches and branches.	*Demonstrates understanding of the principle of classification*
B. So you you still feel that ... well, what about the idea of having a **general statement** divided into **classification** and then maybe other **general information**? Like how you're going to organise the report or something like that.	*M. suggests that 'general statement' could include a classificatory element*
N. There'll be an **introduction** telling what you're going to be doing ... what you're going to be **classifying**. B. Hm. And so your **classification** might just be part of that **general statement** at the beginning.	*N. continues to unsettle the formulaic by using congruent form ('classifying')* *M. shifts the congruent to the metaphorical ('classification')*
N Yeah and then that would lead into **other classifications** and so on	*N. continues with metaphorical*

Without judging the pedagogic success of these particular interventions, the transcript nevertheless illustrates how grammatical metaphor can mediate the development of technicality in the move between the congruent/commonsense and the technical.

This movement towards technicality could be illustrated as in the following diagram, where a process-type meaning is expressed congruently as a verb (e.g. 'the steam condenses'), but is then shifted instantially to a noun realising a process/thing meaning (e.g. 'this condensation causes ...'), and finally becomes fully technicalised when the 'process' aspect fades and we are left with a noun realising what has now become established as an abstract, technical 'thing' (e.g. 'the principle of condensation .....'):

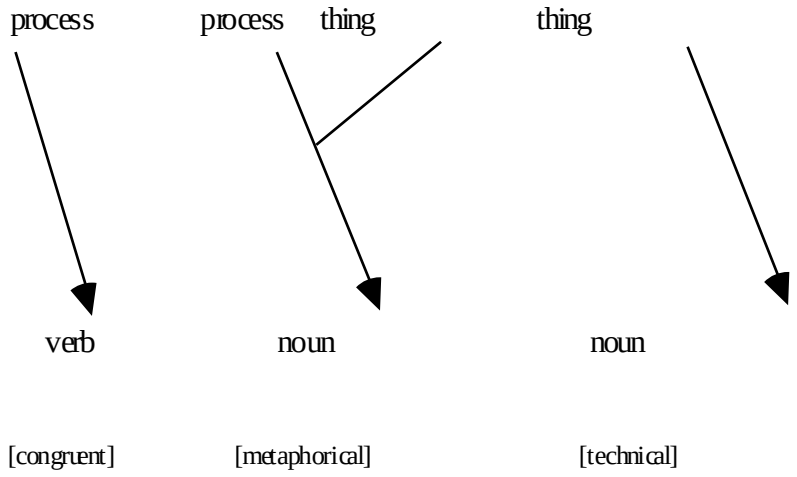

Figure 7.1 Shift from congruent through to metaphorical through to technical.....p.190

Halliday's (1989b) comments on idiomatic expressions would appear relevant to the present discussion:

> Many sentences are stored readymade; they are more or less formulaic for the speaker and for the listener, and any given instance of their occurrence harks back to previous instances of the same wording rather than being engendered afresh by choosing within the system. ... Intertextual potential is strongest where the act of meaning exploits the full resources of the system; it tends precisely to be weakened where the act of meaning is locked into a formula, since this inhibits the 'search' for other semiotic input. (p.9)

To summarise this section, we have clarified the relationship between grammatical metaphor and technicality by distinguishing between various types of technicality. While grammatical metaphor is not involved in technicality at the level of specialist naming, it is involved in the development of more abstract technicality, where processes and qualities are transformed into entities. But even here we need to distinguish between the 'process' of technicalisation, where grammatical metaphor plays a role in the fresh engendering of a technical term, and the institutionalised 'product' which has all but lost its metaphorical overtones. Through the analysis of the transcripts, we have seen how we might explain from a linguistic perspective the child's move from commonsense into technicality. To

reiterate, grammatical metaphor, through a logogenetic process, mediates both the phylogenetic and ontogenetic development of certain types of technicality.

7.1.2 Abstraction

In examining the role of grammatical metaphor in the move from commonsense to uncommonsense, we need to consider not only technicality but abstraction. Just as the discussion on technicality was concerned with the 'fuzzy edges' between grammatical metaphor and technicality, so too does the relationship between grammatical metaphor and abstraction involve the issue of uncertain parameters. This section will initially explore Martin's liberal interpretation of the scope of grammatical metaphor and then Halliday's more conservative position.

Although Martin does not explicitly canvass the boundaries of grammatical metaphor in his writing, we can infer from his analysis of texts that his definition is a generous one, as demonstrated in the following excerpts:

> *'Grammatical metaphors are in bold face in Text 10 to highlight its abstraction. In addition, the text's empty verbs are in italics.'* [1]
>
> **Minimisation** of ***gap*** and ***overlap*** is *accomplished* in two **ways**: one **localises** the **problem**, the other **addresses** it in **localised** forms.
> ..... Thus 'current speaker selects next' **techniques** may be *accomplished* at the very **beginning** of the ***unit-type*** employed in a ***turn*** .
> ..... The **use** of ***self-selection techniques*** is **contingent** on the **non-use** of of 'current selects next' **techniques**, and those may be *applied* at any point up to the first ***transition-relevance*** place, hence ***self-selection*** may not be *exercised* (the **technique** selected or the **transfer** attempted) until the first ***transition-relevance*** place. ... [Martin 1993b, p.260]

> *['Grammatical metaphor underlined']*[2]
>
> I think Governments are **necessary** for a **number** of **reasons**.
> These have to do with the special *duties* of Governments at different **administrative levels** - Federal, State and Local. [in original, 'duties' was analysed as metaphorical]
> To begin the Federal Government fixes up *problems that occur in the community*...
> ..... As **a result** of their **concern** with general **problems**, **education** and waste **disposal**, Governments at several **administrative levels** are **necessary**. [ibid, p.255]
>
> the whaling **experience** [= people are dealing with whales][3]

[1] No code given for bold italics

[2] Actually in bold? No code given for the italics.

[3] Not identified as metaphorical, but unpacked to more 'congruent'

[Martin 1993c, p.11]

In such analyses, we find terms such as 'ways', 'problem', 'technique', 'levels', 'experience' being analysed as instances of grammatical metaphor.

Similar examples are found in a number of analysed texts in the systemics field, e.g.

But the Moslem **faith** continued...
Wherever the **religion** was established...
But the **power** of the empire declined gradually...
and gradually the strong, centralised Roman **system** gave way to many petty chiefs...
Naturally some payment was expected for this **service**
and so the **system** of feudalism began.
The Australian government was frequently critical of the priorities of American **strategy**...
[Veel 1993]

the **concept** of 'locus of control' [mental process]
[Jones 1990]

This increase was faster than otherwise would have occurred.
The **momentum** was maintained in the post-war years.
[Painter (1985/1991, p.80)]

If we try to unpack these examples, we find some difficulty in retrieving a corresponding congruent transitivity pattern:

ways = manner of doing something
problem = something which goes wrong
technique = a way of doing something
experience = 'people are dealing with whales'
system = a complex ordering of phenomena
strategy = a way of going about doing something
concept = something derived from thinking
momentum = the pace at which a process takes place

It is tempting however to include such abstractions within the realm of grammatical metaphor. They certainly appear to function in a similar way. If we characterise grammatical metaphor as 'an element presupposing a figure' or 'a figure presupposing a sequence' (rather than the congruent perspective where an element presupposes an element), then the examples above would seem to satisfy these recognition criteria, where a figure or sequence is telescoped into an element. It could be argued that a 'process-type' meaning, for

instance, is being realised as a simplex nominal. The nominal 'technique' presupposes some sort of activity sequence; 'strategy' implies a number of processes interacting; a 'problem' is inherently something which happens, rather than an inert phenomenon; a 'concept' is a nominalisation of a mental process.

When Veel (1993) analyses 'war' as metaphorical ('Most of my mob didn't survive the **war**.'), it is on the basis that 'war' is a nominal which presupposes a series of happenings. Although both Martin (p.c.) and Downing & Locke (1992) agree that they wouldn't necessarily see 'war' as a live metaphor, nevertheless 'because it is **the name of an activity**, it could be unpacked' (Martin 1993b, p.238) and could be seen 'as a metaphorical interpretation of 'nations using arms to fight each other', in which **a whole situation is nominalised** under an institutionalised term 'war'' (Downing & Locke 1993, p.149). The phrases placed in bold indicate that nominal elements which 'name' an activity or situation can be seen to be within the realm of grammatical metaphor. Unlike technical terms, these elements are not field-specific, functioning rather as abstractions across fields.

When the data is analysed for examples such as the above, we find virtually no instances until age 9, when there is a dramatic increase which continues in the ensuing years. A closer analysis of the data reveals that there are various categories possible, according to the nature of the presupposed figure.

Nominal elements such as	**event, incident, tactic, ploy, custom, practice, experience**	presuppose a	**material** process figure
Nominal elements such as	**evidence, message**	presuppose a	**verbal** process figure
Nominal elements such as	**idea, fact, goal, wit, logic**	presuppose a	**cognitive mental** process figure
Nominal elements such as	**emotion, ambition, mercy, attitude, hope**	presuppose an	**affective mental** process figure
Nominal elements such as	**state, identity, sign, symbol, symptoms**	presuppose a	**relational** process figure

Table 7.1: Nominal elements presupposing various types of process figures

In addition, we find nominal elements which presuppose sequences - either sequences in time (either additive or implicational - though the distinction is not always clear) or sequences which involve a number of simultaneous processes:

Nominal elements such as	**adventure, session, ritual, mission, process, project, background, programme, rites, routine, tradition, ceremony**	presuppose an	**additive** sequence of figures
Nominal elements such as	**problem, war, history, famine, theory. principle, predicament, crisis, catastrophe, disaster, malnutrition**	presuppose an	**implicational** sequence of figures
Nominal elements such as	**system, ecosystem, society, issue, chaos, commotion, turmoil, business, job, situation, case, culture, setting, conditions**	presuppose a	**simultaneous** complex of figures

Table 7.2 Nominal elements presupposing various sequences

Just as we explored the intertextual logogenetic development of technicality, so it is possible to trace the development in the oral mode through to the written of this type of 'metaphorical abstraction'. Nick [age 10] had chosen to do a project on the trial of Ned Kelly. He had read a great deal of background information from a computer database which included transcripts from the trial, letters, various documents and other primary evidence. His first draft was primarily a recount of what happened, as illustrated by this excerpt:

> <u>What Ned did</u>
>
> Ned came across the shingle hut where the constables were staying.
> Constables Mcintyre and Lonigan were out the front of the hut,
> Ned had the option of shooting them
> without saying a word
> but not wishing to take a life
> Ned waited.
> Then they came out of the bushes
> and told them
> to bail up.
> McIntyre obeyed
> and put up his hands

but Lonigan ran behind a stack of wood
and took aim at the Kelly gang
when, Ned shot Lonigan in the right eye
which was a fatal shot.
Then constables Scanlon and Kennedy came back from patroling.
Kennedy slewed his horse around
as if to gallop away
but he took his revolver
and fired,
turned around again,
loaded
and then one of the Kelly gang shot him
bringing him to the ground.
Scanlon run to the nearest tree
and fired
and run to another tree further on
fired again
and one of Ned's gang shot him under the arm
which proved to be a fatal shot.

This recount has all the immediacy and grammatical intricacy of spoken language. It does not however address the assignment question which asked for a discussion of Kelly's guilt or innocence. An analysis of the transcript which accompanies the drafting process reveals a similar pattern to those in the previous section, but this time, instead of building technicality, the adult is assisting in building abstraction. One of the critical aspects of the discussion is the notion of 'evidence'. In the transcript Nick is helped to move beyond an elementary level of abstraction where semiotic reality is realised as material processes to a secondary level of abstraction where semiosis is interpreted through verbal processes. Shifting to yet a higher level of abstraction, these verbal processes are reconstrued as abstract entities - 'evidence'. This alternating between different levels of abstraction can be observed in this short extract from the transcript:

M: So, what was Fitzpatrick's **evidence**? 'Fitzpatrick went to the household of the Kelly's...' Did he...he **said** that, didn't he?

N: Yep.

M: '... to arrest Daniel Kelly on a charge of horse stealing. Mrs Kelly asked to see his warrant.' Now is this his... **evidence**?

N: What do you mean?

M: 'He had nothing but a telegram, so she said to Dan not to go with him. Fitzpatrick threatened Mrs Kelly.' Did he **say** that he did that?

N: Yep. He **said** he threatened to blow her brains out.

M: He **said** that?

N: Yep.

M: He **said** that he would blow her brains out if she interfered. Fitzpatrick **said** that Ned Kelly shot him in the wrist. What did he **say** after that? He **said** that he would blow her brains out if she interfered. Now this is his side of the **story**.

N: Yeah.

M: So he **said** he would blow her brains out if she interfered. Then what happened, **according to him**?

N: Um, I can't say. He **said** two **stories** himself.

M: Well, good. He gave **contradicting evidence**, didn't he?

N: Yeah. Because he **said** in one case, he was insensible when he was hit by the shovel and in another case he **said** the helmet was knocked down over his eyes and he raised to put his.....he put his arm to push it up, when he was shot in the arm by Ned Kelly.

M: Okay. So, do you want to say....

N: That he lied himself. Um, Fitzpatrick lied to himself, while giving **evidence**. And he **said** that da, da, da, da and in another case he **said** da, da, da, da.

M: Right. Do you want to simply say, he gave **conflicting evidence** or **contradictory evidence**?

.....

M: So, Fitzpatrick **contradicted** himself... Come on! How? What did he **say**?

N: Um, he **said** he was knocked out insensible. And in another instance, in another case...

M: So, first of all he **said** this, right. Firstly, he **said** he was knocked out, but later....

N: But later he **said** .... Um, he **said** that his helmet was hit over his eyes. He raised his arm to ward off the blow of the shovel. He was then shot. The shovel continued to come down, hit the helmet over his eyes. He didn't raise it again. Yeah. That's right.

M: Okay. Now what's the point of this **conflicting... contradictory evidence**? What does it say about him as a witness?

N: That his **stories** are not to be believed. Sort of like the boy who cried wolf.

M: Okay. Now what are you going to say about all this **evidence**? First of all you can say that Fitzpatrick... What did you just say? What sort of a witness was he?

N: His **stories** were not to be believed. His **evidence**.

M: Fitzpatrick couldn't be believed. And the other bit of **evidence** that you've got is that he was possibly drunk. Okay, so we can put that in your summing up of this case, can't we?

In a later written draft, Nick has gone beyond the simple recounting of events to presenting events as interpretations, which are nominalised as 'evidence'. This can be seen in the following selection:

The Constables' **Evidence**
Constable Mcintyre is the only one of the constables still alive to tell a story
and he tells **a very different story** to Ned.
He **says**
that Lonigan didn't have time to run behind the woodstack
and he was shot
standing right next to him.
He also **says**
that Kennedy dismounted his horse
and was shot
and Scanlon was shot in the back
as he turned to gallop away.
Mcintyre escaped on Kennedy's horse.

Our Conclusions
Mcintyre's **evidence** is weak
as the bullets came from the front and not from the back.
Secondly it might have suited Mcintyre to make it look like Lonigan was running away from the scene.
Dr. Nicholson **suggested**
that Lonigan stood his ground
and met Ned on equal terms.

Kelly **says**
that it was not murder but self defence
and he gave Lonigan a chance to surrender.
Lonigan was doing his duty.
Ned resisted arrest
and had to shoot him three times.
The important thing is that Lonigan had power by law whilst Ned had only the force of arms.
Ned's **argument** has not succeeded
as he was doing an illegal act at the time.

Butt (p.c.) suggests that nominalisations such as 'evidence' could be considered as metaphorical inasmuch as they are reconstruing linguistic forms which the speaker has enunciated elsewhere in the text.

A more conservative interpretation of grammatical metaphor would not see instances such as the above as strictly metaphorical. While recognising that they represent a significant development in the child's linguistic resources, they would need to be explained in terms of other aspects of the system.

The issue of whether or not a liberal or conservative view of the boundaries of grammatical metaphor is appropriate will be pursued in the concluding chapter. At this point, however, we can say that grammatical metaphor is intimately involved in the development of experiential meanings in later childhood and is particularly implicated in the shift from commonsense to uncommonsense. The understanding and use of technicality is enhanced by a logogenetic process of shunting between the congruent, the metaphorical and the technical. In a liberal interpretation, higher levels of abstraction, where figures and sequences of varying complexity are realised as nominal elements, also involve grammatical metaphor.

7.2 THE ROLE OF GRAMMATICAL METAPHOR IN TEXTUAL DEVELOPMENT

Just as important in the transition to secondary school is the need to produce coherent, logically structured texts. In terms of learning, in fact, it is difficult to separate the experiential from the textual. In the following section, we will discuss the way in which grammatical metaphor contributes to the development of textual meanings.

In describing the textual function of grammatical metaphor, Halliday (1986b) states that:

> the presence of these structures makes it possible to develop and sustain an ongoing logical argument, by making explicit exactly what is functioning as background in any one step, serving as point of departure; and exactly what is functioning as foreground, as the main item of news, of new information. (p. 5)

The following text illustrates the logogenetic role played by grammatical metaphor, accumulating the meanings as the text unfolds:

> *Question: Draw and explain how an Aneroid barometer works.*
>
> *[Draft #1]*
> The barometer works by air pressure.
> The major part in a barometer is the sealed off air
> as it cannot let air in or out
> to equalise the pressure outside,
> it must **expand**
> or **decrease** the container it is in. (see diagram).
> **This expanding and contraction** triggers off a mechanism which shows the pressure.
>
> *[Draft #2]*
> The barometer's function is to show changes in air pressure.
> The major part in a barometer is the sealed off air chamber.
> It cannot let air in or out
> to equalise the pressure outside,
> therefore it must **expand**
> or **contract** the chamber it is in (see diagram).
> **This expantion and contraction** sets off springs
> that magnify
> and indicate the air pressure. [age 12]

In these drafts, we see the use of intratextual logogenetic processes in the development of the 'archetypal' scientific explanation as outlined by Halliday (Chapter 5), where observations of material processes ('expand', 'contract') are then distilled in nominal form through grammatical metaphor in order to move the explanation along. Once nominalised, the processes can be backgrounded as 'given' information, taking up the thematic position in the clause as point of departure for the next step in the explanation. (Note the changes in

the drafts from 'this **expanding** and contraction' to 'this **expantion** and contraction', which would seem to reflect a phase of creative apprenticeship.)

Further examples of such use of grammatical metaphor can be found in the data, increasing in number as Nick gets older. At this stage, the potential of grammatical metaphor as a textual resource is not fully exploited, and most instances are simply rehearsals for its later deployment in this role. The earliest example is found at age 9 (congruent in bold, grammatical metaphor in bold caps):

> The Qing emperors **expanded** the empire
> but this **EXPANSION** led to too much responsibility

Followed soon after by:

> I am Ferdinand Magellan, a portugese navigator.
> I **plan** to reach the spice islands
> by sailing west from the New World instead of around Africa.
> The king of portugal wasn't interested in my **PLANS**,
> but the King of Spain gave me five ships.

At age 10, we find a handful of attempts at moving from the congruent to the metaphorical and vice versa:

> The book starts with Joe (a nine to ten year old boy who is fairly shy) **going to visit**
> his aunt, Mrs. Chatsworth.
> While he is on his **VISIT**
> he meets the Griffin, a dog-like creature with wings
>
> The reason that I think that Galileo is remembered today especially by astronomers is
> because he invented the telescope
> and **discovered**
> that the earth was not the centre of the universe
> which Aristotle had claimed to be true
> and that four moons circled around Jupiter.
> These were not the only **DISCOVERIES** that Galileo made.
>
> THE ART OF RECOVERING GOLFBALLS
> Anyone interested in **GOLFBALL FINDING** should start off with suitable clothing.
> The best clothes for this job would be the worst ones you've got in your drawer - an
> old stained T-shirt and a pair of tattered shorts.

You don't need any footwear apart from the skin on your feet for identifying golfballs in the mud.
You normally **find golfballs** in the creeks on course to a hole or near a hole.
To find golfballs in murky water
you must wade in
and move from side to side
as you are going forward
covering every inch of mud below.
.....
.....
Overall I think
that **GOLFBALLING** is a great pastime.

October in western Australia is the season of the whales
because it is when all the whales migrate to the antarctic for a summer vacation.
This used to be a dangerous time for the whales
as they **were easily hunted**
because the whales come close to the shore
to catch the strong currents
which made progress faster
and in case the female whale had an early birth.
The rate of whales has increased since 1965 from 800 to 2000.
The **KILLING** had almost stopped now

CHAPTER 4: RECYCLED PAPER: IS IT THE **SOLUTION** ?
Recycled paper may not be the best
but it sure does **solve** a few large problems
such as the forests being saved from extinction.

Goats that **are being bred** for skin, fleece and dairy products need more food than a wild goat.
The **BRED** goats need to have a feed in the morning, midday and later on at night with a change of water every second day.

When one balloon **was popped**,
the end holding the remaining balloon dropped
because the balloon that was blown up had the weight of the rubber and the carbon dioxide
whereas the **POPPED** balloon only had the weight of the rubber.

At age 11 we find several instances of this intratextual move from congruent to metaphorical, e.g.:

HOW WOULD YOU SEPARATE SALT FROM SAND?
Pour water into the beaker containing salt and sand
then pour it into a filter funnel, with a beaker underneath
then **evaporate** water
by heating the beaker with a bunsen.
Repeat process
until no more salt is produced after the **EVAPORATION**.

LOCAL HIGH SCHOOL ABLAZE
On the 15th of February a small group of vandals made an attempt **to burn down** parts of Kiama High School.
They **burnt down** most of the science room and equipment valued at $200,000.
.....
.....
Not long after, the school was the victim of another **FIRE ATTACK**, this time on the English block.
After three attempts the scoundrels managed to set the building alight.

President Mikhail Gorbachev today **resigned**
with a crowd of rejoicers following him
yelling out cries of joy.
Gorbachev today said
that they didn't want him they didn't have to have him.
Even though the people are rejoicing at the thought of Gorbachev's **RESIGNATION** ...

I feel
that your findings about "Pete Marsh" are **similar** to that of my findings about "Tollund man".
It appears
that they both come from the same period, the Early Iron Age between 2000-2500 yrs. ago.
The following facts are plain:
1. They were both garroted
2. Both were naked except for a belt and cap
3. Each had the same last meal
which was vegetable soup consisting of hard to find seeds - a special last meal?
4. The two men were found in two different bogs
The **SIMILARITIES** between both deaths suggest
that they were not cases of common murder
but they were probably ritual killings.

The religious customs of the North German tribes.

Some ceromonies envolved the **KILLING** of slaves
after they had washed the goddesses clothing.
The slaves **were often killed**
by being drowned.

Similarly at age 12, e.g.:

SUMMARY OF EVENTS
• 1850's Colonial Era
The French came into Indochina
and **colonised** the countryside
to obtain produce and materials for France.
.....
.....
THE COLONIAL ERA
In the nineteenth century, many European countries established **COLONIES** in South-East Asia.
France expanded its **COLONIAL EMPIRE** to Indochina.
In twenty years France had a grip on Vietnam, Laos, and Cambodia.
WORLD WAR II
The French were defeated by Germany in France
while the French **COLONIES** were invaded by Germany's ally the Japanese.
.....
.....
The French left
and abandoned their **COLONIAL EMPIRE**.

When the Viet Minh had beaten the Japanese with the aid of the United States,
the Vietnamese took pride
and realised
that they could become **independent**.
So, they were confronted with the **INDEPENDENCE MOVEMENT** of the Vietnamese people.

In August the 46th anniversary of the bomb, was **commemorated**.
Attached is a few clippings showing the **COMMEMORATING**.

Los Angeles is reputed to be North America's most **polluted** city.
The causes of the **POLLUTION** are many.

My **FEELINGS** about the story are ambiguous.

On the one hand, I **like** the way everything turns out for the best,
e.g. for Andrew it gets better with his brother.
Ben is no longer pushed around by his brother Darren.
Elaine's life changes
when her father comes home
and she is allowed to do Shaz Christie's production.
As for Mario He has a more brighter future to look forward to.
On the other hand I **feel**
that the ending was too clichéd and predictable.

Most of Stephen King's writing is extremely controversial.
One thing that people **object** to is the violence
because there is the possibility that somebody will read the books
and get it into their head
that they can go and do the same thing to ordinary people such as you and me.
Another **OBJECTION** is that Stephen King incorporates a lot of coarse language into his books.

And again at age 13, e.g. :

The main factor for the constant **CRITICISM** is due to Macquarie's mismanagement and his policies.
He was **criticised** for
a) Fixing prices policy
b) Granting rations to government officials
c) Importing wheat
(wheat is now one of Australia's major exports!)
d) Importing currency
(by importing currency
he took value away from rum,
thus making the policy one of the major contributors to the breakdown of the rum rebellion!)
e) His building policy
(most of the buildings still stand today
and form the basis of Sydney's CBD.)
f) The main **CRITICISM** of him was the ever increasing expenditures on the colony.

I have made several more contacts with the animals
and most of them are starting to have a bit of trust in me even Ranee
but Raja continous to be independent of me
and after a long mental **BATTLE** he goes to the cages.
He is always trying to shut me out
and I'm getting headaches and sore heads

from **battling** with Raja.
Today I was able to control Raja under the deterant of gunshots.
It seems
as if I'**m changing**
to be more like Raja
and I also think
that Raja can sense this **CHANGE**
and is **starting to trust** me more.
but not a full **TRUST**!

1) A Rotary Drill is used
to drill shafts that explosives can be put down
to **loosen** up the overburden.
2) The Dragline then removes the **LOOSENED** overburden

There was a general urging for **more** churches to be built
as they wanted to observe the custom of the Queen
by attending church on sundays.
The other factor for this **INCREASE** in churches was that so many different nationalities had come out
and wanted to keep up their religion.

In this essay I have chosen
to do a character study of Antonio.
I will discuss his **CHANGES** in his character in the light of one of the major themes in the play - reasoning and emotion.
.....
.....
Through this character study of Antonio I have shown how Antonio **changes** through the play - from over-generous at the beginning, to depressed when his ships are lost, to relieved at the end.

As we can see from the above, Nick is learning to shunt between the congruent and the metaphorical, often with rudimentary textual motivation.

The above examples illustrate the nature and role of grammatical metaphor as conventionally defined. Again, however, it is of interest to consider a more liberal interpretation of grammatical metaphor in looking at developments in Nick's control of textual resources. In this regard, we can observe how certain abstract nominal elements

function to distill a number of figures - either cataphorically foreshadowing an ensuing argument or anaphorically pulling together a preceding one.

e.g.

How can we save energy?
The reason we should save energy is because some main forms of energy are limited.
Here are some **WAYS** you can personally save energy:
- using bikes, skateboards, rollerskates, etc.
- refer to my ideas in the paragraph on oil, fossil fuels
- turn of heaters and lights when not in actual use
- use solar water heating or shower with a friend
- insulate your house [age 10]

In this case, 'ways' is functioning as an organiser, cataphorically predicting a series of various means of saving energy. A liberal interpretation might call this metaphorical in that it is a nominal element standing for a number of enhancing processes ('by using bikes', 'by turning off lights', etc.)

Similarly, the introduction to Nick's project on 'Paper' anticipates each major section of the text with the use of a summarising abstraction:

INTRODUCTION
In this project I will start
by telling you a bit about the **HISTORY** of paper.
After describing the **PROCESS** of making paper, *[cf Draft #1 'how paper is made']*
I will bring you to the modern paper **PROBLEM**.
After the alert I will go on to some **SOLUTIONS** such as recycled paper
and find out
if it's good or bad
and then the **CONCLUSION**:
can we still save our forests? [age 10]

While the above two examples might be seen as cataphoric, foreshadowing points to be later unravelled, the following abstractions function anaphorically, accumulating preceding meanings:

HOW WOULD YOU SEPARATE SALT FROM SAND?
Pour water into the beaker containing salt and sand
then pour it into a filter funnel, with a beaker underneath
then evaporate water
by heating the beaker with a bunsen.

Repeat **PROCESS**
until no more salt is produced after the evaporation. [age 11]

The large room was divided into two rooms.
One room was 62 by 22 feet
and the other one was 16 by 15 feet.
These **DIMENSIONS** changed during the years from two rooms with gallery-like rows
to rooms
with three tiers in each room, then to three rooms with no tiers [age 11]

As an example of this phenomenon, one of Nick's texts and the accompanying oral discourse will be discussed in some detail. In the first draft of an historical account of the railway system in Australia, Nick [age 10] has presented a series of statements, but has not crafted the text in a way which makes the overall argumentation explicit:

Trains *[Draft 1]*

Australia's trains and railways were delayed
because Australia didn't have any industries in railways
so everything was brought over from Britain
which really delayed us
because the equipment had to be shipped out to Australia
and another problem was the states wanted
to keep their things to themselves
so they made different sized tracks
which meant
that one train could not go from Victoria to Queensland
because they would have to change trains at the NSW border
and then the NSW train would have to change at the Q.L. border
and then the Q.L. train would take them to their destination.
But that meant a lot of changing of the passengers and luggage
moving them from one train to another
until later on that problem was solved
because the states decided
that they should make one long railway going through all the states.
There were also a few problems which were serious to the railway and trains people.
The problems were mainly in SA and NSW and Vic.
The problems with NSW were the Blue Mountains and the Great dividing Range.
These had been already been conquered by cars but not by railways and trains.
The Blue Mountains were one of the physical barriers

because a train couldn't climb such a height in one go
so they had to go zig zaging up the hills.
The way they did it was a train would go on a diagonal stroke to a certain distance and then the engine would go to the other end of the train then they would keep going and so on all the way up the mountain.
The trains did the same with the Great dividing Range
but the Nullabour Plain another one of the physical barriers was another hard one to build.
The Nullabour Plain was hard to build
because the conditions of the Nullabour Plain were hot, sticky and treeless
which made it hard to do the job.
The Nullabour Plain was very long in distance and hot
so the workers had to take it easy
and be well-protected from heat and the sun.

The draft is adequate in terms of its propositional content, presenting a number of factors in the history of railways and every so often moving to a higher level of abstraction with the use of the notion of 'problem'. Nick does not, however, exploit the potential of this abstract entity for text-structuring purposes. In discussing this draft with him, attention was drawn to the 'spoken' nature of the first section:

M. You just said that the first paragraph...well, the first problem - that paragraph sounds different to the rest. Why?

N. Because it's sounds like I'm really in it.

M. Why does it? That's what I thought too, Nick.

N. Because I've got all the really really...See - 'The first problem was that Australia's trains and railways were delayed because Australia didn't have any industry in railways so everything has...was brought from...over from Britain which really delayed us because the equipment had to be shipped out to Australia'. **It sounds like I'm giving a speech** to someone.

M. It does Nick. That's exactly what I was thinking. **It sounds like talking language** not written language.

N. Yeah, it sounds like...

M. Why?

N. Um it's...the way it's written. It sounds like it's going to keep continuing. Yeah...**it sounds like it's going to keep going on**.

M. Right. Um...that's really what we do in **spoken language**. When we're speaking we just keep going and going and going...

N. ... and **we don't bother to say 'this is the end of this' and 'that's the end of that'**.

M. Yeah. **We don't really organise our talk like we do writing**. We haven't got time, have we. So we just keep on talking and talking...

N. Yeah, that's right, because **spoken language doesn't have any sentences, it only has one continuing sentence,** but you wouldn't really call it a sentence because **there are no such things as sentences**.

M. No such thing as what?

N. ...**as sentences in talking**.

M. There's no such thing as sentences in talking.

N. Yeah. Because you keep on talking - you have no stops, unless someone else comes in...

M. No fullstops.

N. No fullstops. No nothing. You don't have any punctuation or anything because you can't see it. You gotta say it.

M. How do you make it clear to people then...about where your ideas stop and start?

N. Well, they just ...they just tell from the way you're talking.

Not only is this section of the written text typically spoken inasmuch as its structure is a free-flowing series of hypotactic clauses, but also in the relatively unplanned nature of its texturing. It was suggested to Nick that he might foreground the notion of 'problems' as the method of development of the text.

M. Alright. So how...how can we just introduce this one? Instead of just coming out and saying "Australia's trains and railways were delayed.." Maybe just starting off - "First of all..." or "One of the early problems" or something like that?

N. Yeah. Okay.

M. Okay? That takes up the theme, doesn't it. So which one would you go with there? Just to begin that a little bit better.

N. The first problem was that Australia's trains and railways were delayed ...

M. Good. Right. "The first problem was that Australia's trains and railways were delayed". Right. That's very good. "Another problem....." See, what I'm trying to....

N. Yeah, link it up.

M. Exactly, to link it up. That's exactly right. So that the reader can see "Ah, right - this is one problem, this is another problem.."

N. ...and another... *[N. searching through draft text]*

M. ...and here's another one. Right? Now.

N. ...and here's another.

Four drafts later, Nick produced the following:

The Problems Involved in the History of Trains in Australia *[Final draft]*

There were many **problems**
in building the railway system in Australia.

The first problem was the delay in building Australia's trains and railways.
The reason for the delays was that Australia didn't have any steel industries of its own
so they had to get steel products imported from Britain.

Another problem was that the states wanted to keep their railway innovations unshared.
This meant
that one train could not cover all the distance from Victoria to Queensland in one go
because the Victorian train would have to change at the N.S.W. border
and the N.S.W. train would have to change at the Queensland border
and the Queensland train would take them to their destination.

There were also **a few natural problems**
which proved a serious problem to the Railway Authorities.

These physical barriers were mainly in N.S.W., S.A., and W.A.

The main problem with N.S.W. was The Great Dividing Range.
These mountains had already been conquered by cars but not by railways and trains.
For example, The Blue Mountains (a part of the Great Dividing Range west of Sydney) were one of the physical barriers
because a train couldn't climb such a height in one go
so they had to go zig zagging up the hills.
The way they did it was a train would go up the mountain on a diagonal stroke to a certain distance and then the engine would go on a sidetrack to the other end of the train. Then after the tracks were changed the train would keep going and so on all the way up the mountain.

The Nullabor Plain (in S.A. and W.A.) was another one of the physical barriers which was **a problem** for the Railway Authorities.
The Nullabor Plain track was hard to build not only because of **importing problems**
but also because the conditions of the Nullabor Plain were hot, sticky and treeless
which made it hard to do the job.
The Nullabor Plain was very long in distance
so the workers had to take it easy
and be well protected from heat and the sun.

In order to focus the field of the text and to provide a cue for the reader as to the predominant theme, Nick had been encouraged to work on the title:

M. Good. Your title is 'Trains'. Good that gives me a clue, but it doesn't really tell me what sort of um ...

N. 'The History of Trains'.

M. Is it 'The History of Trains'?

N. No. Ah. 'The Making of Trains'.

M. 'The Making of Trains'. I don't think so. Cause then I'd expect to have something about how trains were constructed. Well, what have you written about? What are the main things that you have written about?

N. The problems involved...

The direction provided by the more specific (though clumsy) title - 'The Problems Involved in the History of Trains in Australia' - was immediately picked up in the first sentence:

There were many **problems**

in building the railway system in Australia.

Here 'problems' is introduced in Rheme position as 'new' information. It functions as Hypertheme, predicting the development of the rest of the text. The notion of 'problem' is then taken for granted, becoming the Macrotheme of the next paragraph:

The first problem was the delay in building Australia's trains and railways.
.....
.....

This pattern is continued in the following paragraph:

Another problem was that the states wanted to keep their railway innovations unshared.
.....
.....

At that point in the redrafting, Nick displayed an awareness of how he was structuring the text:

M. Alright, where would you put paragraphs?

N. Um...for the...when you're changing the subject you put another paragraph 'cause you're talking about **that** subject...like we have 'problem one' and then we had 'problem two', 'problem three' and 'problem four'. So there were quite a few paragraphs including um the introduction and...
... it should state the problem, answer, problem, answer, sort of like a court case.

In the third paragraph, 'problem' is reintroduced in Rheme position, in order to refocus the discussion, which now moves to a specific type of problem:

There were also a few **natural problems**
.....

The following exchange illustrates Nick's grappling to come up with an appropriate organiser:

N. 'There were another few problems apart from....'

M. 'There were....There were a few other problems...'

N. ...not with the...uh...with the importing and the railway track. It was to do with physical barriers.

M. Right. Good.

N. Something like that.

M. Okay, so 'There were a few problems...'

N. 'There were a few **natural** problems...'

The 'subtheme' of natural problems is taken up in the next sentence, with a near-synonym as Theme ('These physical barriers'). The Rheme of this clause foreshadows a minor method of development - the elaboration of different types of natural problems according to physical location:

These physical barriers were mainly in **N.S.W**., **S.A.**, and **W.A**.

The theme of 'problems', modified now in terms of type ('natural') and location ('in N.S.W.') is pursued in the following section:

The main problem with N.S.W. was The Great Dividing Range.
.....
.....

Unlike the first draft, where the earlier reference to physical barriers in S.A. and W.A. is not picked up later in the text, this final draft threads back to the problem of physical barriers in these states, reminding the reader of how the text is being structured:

The Nullabor Plain (in **S.A.** and **W.A.**) was another one of the **physical barriers** which was a **problem** for the Railway Authorities.

Nick has chosen to place 'physical barriers' and 'problems' in Rheme position in this instance, possibly for stylistic variation. In the following sentence, Nick deftly harks back to the 'problem' theme by implicitly comparing the 'man-made' problems in the first half with the natural problems in the second:

> The Nullabor Plain track was hard to build not only because of **importing problems** but also because the conditions of the Nullabor Plain were hot, sticky and treeless

In the drafting of this text, we can see Nick developing the linguistic technology necessary for the elaboration of a sustained argument. Taking a liberal view, and following the precedent of Martin's analysis of 'problem' as metaphorical (see above), we could say that grammatical metaphor is playing a central role in the logogenetic unfolding of this text. In the words of Painter (1991):

> The function of grammatical metaphor in this case is not a matter of reconceptualising phenomena to construct new taxonomic hierarchies, or to provide a field-specific 'shorthand' for complex processes. Here it relates instead to the need to foreground textual organisation when constructing interpretive arguments in writing. (p.81)

In this section, we have seen that Nick is learning to manipulate the resources of grammatical metaphor to develop interpretive argumentation in his texts. There is an increasing deployment of metaphor as conventionally defined and as liberally defined, in order to shift between a 'loose' and 'tight' texture at appropriate points in the development of the discourse.

7.3 THE MOVE INTO METAPHOR FROM CHILDHOOD TO ADOLESCENCE: ILLUSTRATIVE TEXTS

In order to illustrate the development of grammatical metaphor as discussed in the last two chapters, three texts representative of early childhood, later childhood and adolescence will be analysed. The texts all comprise a similar number of clauses (38, 42 and 45 respectively).

7.3.1 Early childhood

The following text was written by Nick at age 6[4]. It is typical of those written in this early stage of moving into the written mode. It was written unaided and with no drafts. The spelling and punctuation of the original have been retained.

[4] CODE:

grammatical metaphor	**bold**
metaphorical abstraction	SMALL CAPS
embedded clauses	[[.....]]
transcategorization	*italics*

	TEXT	COMMENTARY

	THE GRAND PRIX	
1	When Allan Jones was **having dinner**	Process + Range
2	he *sudenly* stoped eating	
3	he had just thought of [[what he was going to make for the Grand prix that was on in 4 months time]].	embedded 'Fact' clause
4	Next day He woke up very early in the morning	
5	raced down to the garage	
6	and started **to do the drawing** [[of what he had thought of last night]].	Process + Range
7	It turned out to be something like this.	embedded defining clause
8	(Please leave space for my picture)	
9	He worked very *carefully*	
1	because he didn't want	
	anything to go wrong with his new Motor car.	
1		
	On the other side of town works Wayne Gardner on his new motor car	
	he had thought of a new motor car one week before Allan Jones.	
1	He's was going to have a Jet enine with fire power at the back of his car	
	But! Allan Jones had a normal engine	
1	so it was unfair	
	wouldn't you say.	
1		
	(Leave space for picture please)	
1		
	The day had come	
1	and the Grand prix was filled with people [[waiting]].	embedded defining clause
	"Here they come"	
1	shouted a little boy in the front with benocullars.	
	They were all lined up ready for the race.	
	Know they were ready.	
1	The flagman waved his white and black flag	
	and of they went ..... zoom ... zoom ... zoom	
	they left the crowd all covered in dust.	
1		
	They **had done nine laps**	Process + Range
2	they were on there last lap	
	but! someone had discovered	
2	that Wayne Gardener had a **fire powered** engine	metaphorical Classifier
	he was *immediately* discallified.	
2	Allan Jones had wone the race	
	he got a bundle of flowers and a gold cup.	
2	He was very happy	
	when he came home.	
2		
	He kept winning races	
2	so he **had a very happy life.**	Process + Range
	The end	
2	Author: Nicky D. Illustrator: Nicky D.	
2		
2		
2		
3		
3		

In early childhood, we can see that Nicky, as predicted by Halliday, is writing very congruent texts. Although this is a relatively lengthy text, there is only one instance of grammatical metaphor 'proper' - the use of a metaphorical Classifier: 'fire-powered' - and even this is used in a fairly formulaic way, as if he had simply lifted the term from some television cartoon. It is unlikely that he would have used the congruent alternative ('Wayne Gardener's engine was powered by fire'), though the change from 'a Jet enine with fire power' (clause 14) could be a significant step towards deploying the compacting resources of grammatical metaphor.

There are a few examples of precursors of grammatical metaphor such as transcategorisation ('carefully', 'immediately'), and of protometaphorical constructions (Process+Range and embedded clauses) - but as discussed in the previous chapter, these have come to represent the unmarked choice and can no longer be considered to be truly metaphorical. This text, then, illustrates the ontogenetic trends evident in the analysis in Chapter 6, that is, that in the early years there is little evidence of the child's use of grammatical metaphor, apart from some formulaic and protometaphorical constructions.

Another explanation of the lack of grammatical metaphor could relate to the choice of register (an action narrative text towards the spoken end of the mode continuum). Similar narratives in secondary school are also relatively congruent. This raises the question of the extent to which the congruence of young children's writing can be attributed to the kinds of texts they are encouraged to write and read (primarily recounts of personal experience, observation/ comments, narratives).

7.3.2 Later childhood

The following is an excerpt from much longer text written by Nick at age 9. Nick had just returned from three months in China, feeling quite mature following his experiences of giving semi-prepared public talks and interacting with adults. This was his first attempt at writing a lengthy, expository text. He was quite excited at the prospect and very proud of the result. He drew on several written sources for the first time, but the transcript and drafts indicate that there was little direct copying. The text went through several drafts.

	TEXT *[excerpt from longer text]*	COMMENTARY

	THE CULTURAL REVOLUTION	
1	Sun Yat Sen brought **freedom** to the country,	quality: thing
2	but after he died	
3	there was a lot of **confusion** and **fighting**.	quality: thing; process: thing
4	*Finally* , in 1949, the Communist *government* [[led by Mao Zedong]] took over.	embedded defining clause
5	There was still a lot of **poverty** and **backwardness**,	quality: thing; quality: thing
6	so in 1967, Mao started The Cultural Revolution.	
7	The Cultural revolution was meant to be a time of **modernization**	quality: process: thing
8	but it did not work out that way	
9	and so things got out of control.	
1	The students, were the ones [[who started this time of **sadness**]].	embedded defining clause
	They formed themselves into groups [[called the Red Guards]]	quality: thing
	who went around	embedded defining clause
1	and burnt books	
	and pulled down temples and palaces.	
1	They had a *saying* which meant	
	that the Chinese had to get rid of the old CUSTOMS such as *Buddhism*.	
1	Teachers were criticised by their students	metaphorical abstraction
	and made to wear dunce hats.	
1	Many people were tortured	
	and killed.	
1	In 1977, Chairman Mao died	
	and a new government came to power.	
1	This *government* is still trying to *modernise* China	
	and bring it into the twentieth century.	
1		
	TODAY'S CHINA: MY **OPINION**	
1	I thought China a great **marvel**	circ: deictic; mental process: thing
1	and to see [[what they have saved]]	quality: thing
	and to see [[how they're developing into **modernization**]]	embedded clause
2	after having many, many centuries of hard **life** with *changes* [[going up and down]].	emb.cl.;quality: process: thing process: thing
2	Although we wouldn't call it modern compared to all the technology [[that we've got]],	embedded defining clause embedded defining clause
2	it is a *future dream* [[to see [[what's going to happen to China]]]].	
	Instead of dreaming [[how easy it's going to be]]	embedded clause
2	like pressing buttons and automatic things,	embedded clause
2	they would dream of [[what we've got now]], for example space [[to move]], fresh air, small *population* , modernized *transport* , **freedom** to choose, **ownership** of cars and houses and a **higher salary**.	emb.cl.; embedded defining clause quality: thing
2	Their *hospitality* is +A1	process: thing; process: thing
	- they'll have banquets *occasionally*	
	and take you to places like the Great Wall and the Ming Tombs	
2	and they'll try to help a lot.	
	Their **enthusiasm** is high	
2	- they're enthusiastic about nearly everything [[that will help them to *modernise* their country]]	quality: thing embedded defining clause
2	and to do **that**	
	they must love their country very much.	'textual metaphor'
2		
3		
3		
3		

In the above text we find a number of instances of grammatical metaphor. The major types found are those of 'quality : thing' (eight instances) and 'process : thing' (five instances). There is one example of a circumstance ('China **today**') being metaphorised into a possessive deictic ('**Today's** China') and one of a recursive metaphor - 'modernization' - where two steps are involved in its unpacking: 'modernization' > 'modernise' > 'modern'. In addition, there are a number of protometaphorical embedded defining clauses (seven instances) and transcategorisations (fourteen instances).

We find one instance of what could be analysed as a 'metaphorical abstraction' if we follow Martin's liberal interpretation: 'customs' could be seen as a nominalisation of 'a set of habitual social activities/practices'. If we were also to accept Martin's notion of 'textual metaphor', then the use of 'that' could be seen as a nominal element presupposing the preceding processes, a significant step in the structuring of written text:

> Their enthusiasm is high
> - they're enthusiastic about nearly everything [[that will help them to modernise their country]]
> and to do **THAT**
> they must love their country very much.

It is evident that this text displays a greater use of grammatical metaphor than the earlier, even though they are of similar length. One reason for this is that fact that Nick is older and has therefore had more experience with using language. But we must also consider the fact that Nick, in preparing the text, engaged with a great deal of written information about China and that this exposure could have provided models of adult written language which he might not have previously encountered to such an extent. In addition, there is again the question of register. We would expect a higher degree of grammatical metaphor in an historical account than in an action narrative.

One way in which we might gain an insight into how this later childhood text has developed from earlier ones would be to identify where a congruent version would have been a reasonable alternative to the metaphorical choice.

METAPHORICAL CHOICE	POSSIBLE CONGRUENT ALTERNATIVE
• Sun Yat Sen brought **freedom** to the country	• Sun Yat Sen made the country free
• there was a lot of **confusion** and **fighting**	• people were very confused and fought a lot
• There was still a lot of **poverty** and **backwardness**	• People were still very poor and backward
• *The Cultural revolution* was meant to be a time of **modernization**	• The Cultural revolution was meant to be a time when China became more modern
• The students were the ones [[who started this time of **sadness**]].	• The students were the ones who started this sad time.
• **TODAY'S** CHINA: MY **OPINION**	• CHINA TODAY: WHAT I THINK
• I thought China a great **marvel**	• I thought that China was marvellous
• and to see [[how they're developing into **modernization**]]	• and to see how they're making China more modern
• after having many, many centuries of hard **life**	• after living a hard life for many, many centuries*
• they would dream of ... **freedom** to choose, **ownership** of cars and houses and a **higher salary**.	• they would dream of ... being free to choose, owning cars and houses and earning more money.
• Their **enthusiasm** is high	• They are very enthusiastic
	[Process + Range seen as less metaphorical]*

We can see from this table that there were a number of instances where a younger child might well have chosen a congruent alternative, while Nick appears has opted for a more adult-like metaphorical version.

Conversely, we could examine the text for those instances where Nick has retained the congruent where an adult might have chosen the metaphorical:

NICK'S CONGRUENT CHOICE	POSSIBLE METAPHORICAL ALTERNATIVE
• but after he died • so in 1967, Mao started *The Cultural Revolution.*	• but **following** his **death** • The year 1967 **saw** the **beginning** of **Mao's** Cultural Revolution
• but it did not work out that way • and so things got out of control.	• but this **intention** was thwarted • with **the result** that the SITUATION became **uncontrollable**
• They formed themselves into groups called the Red Guards • who went around and burnt books and pulled down temples and palaces. • They had a saying which meant that the Chinese had to get rid of the old CUSTOMS such as Buddhism.	• ... with the **formation** of groups called the Red Guards • who created HAVOC with the **burning of books** and the **demolition of temples and palaces** • Their slogan **called for** the **abandonment** of the old customs such as Buddhism.
• Teachers were criticised by their students and made to wear dunce hats. Many people were tortured and killed.	• The Cultural Revolution **encouraged** the **criticism** and **ridicule of teachers** by their students and the **torture** and **killing of civilians.**
• In 1977, Chairman Mao died	• With the **death of Chairman Mao** in 1977 ...
• This government is still trying to modernise China	• This government **continues the effort** ...
• I thought China a great **marvel** and to see [[what they have saved]] and to see [[how they're developing into **modernization**]]	• I marvelled at **China's efforts** at **conservation of the past** and **its push into the future**
• after having many, many centuries of hard **life** with changes [[going up and down.]]	• **following** many, many centuries of hard life and **vacillating fortunes**
• Instead of dreaming [[how easy it's going to be]] like pressing buttons and automatic things, they would dream of [[what we've got now]], for example space [[to move]], fresh air, small population, modernized transport, freedom to choose, **ownership** of cars and houses and a **higher salary**.	• **Their dreams** are not of the **conveniences of technological gadgetry** but of **fundamentals which we take for granted** such as .....
• it is a future dream [[to see [[what's going to happen to China]]]].	• **China's prospects** ...
• - they'll have banquets occasionally and take you to places like the Great Wall and the Ming Tombs and they'll try to help a lot.	• ... with the **occasional banquet**, the **visits** to places like The Great Wall and The Ming Tombs and the **generous assistance**
• they're enthusiastic about nearly everything [[that will help them to *modernise* their country]] and to do that they must love their country very much.	• **Their enthusiasm to embrace modernization in the interests of their country testifies to their intense patriotism.**

Although to some extent this is an artificial exercise in that an adult version would probably cast the whole text differently both experientially and textually, it does nevertheless indicate that Nick's text, while more metaphorical than earlier ones, is still far from a comparable adult text.

7.3.3 Adolescence

At 14 years of age, Nick wrote the following text. No preparation was done at school - Nick simply had to choose from a list of around thirty essay topics in History ranging from 'The Beach Boys' and 'Marilyn Monroe' to 'The Philby Affair' and 'The Great Depression'. The Vietnam War is a recurrent theme in Nick's writing and over the years he has read a great deal on the topic. In the production of the text he referred to several books, but used them primarily as a source of background information rather than for close notemaking. He shaped up the argument of the text on his own, writing a couple of drafts and then consulting with his father, who simply corrected any factual inaccuracies.

	TEXT	COMMENTARY

1	**Search and Destroy** OPERATIONS in Vietnam	process:classifier; metaphorical abstraction
2	The Vietnam WAR was the first of its kind with the **combination** of Guerilla WARFARE and Jungle WARFARE.	metaphorical abstraction (x3) process:thing
3	The *allies* , for all their technology, could not force the North Vietnamese back, due to their TACTICS [[incorporated for the types of WARFARE]].	metaphorical abstraction (x2); embedded defining clause;
4	No front line **meant** that the allies had to find the enemy	relator:process
5	to engage them.	
6	**This** then **led** to the **use** of helicopter and **fire support** bases.	'textual' met.; relator:process; process:classifier
7	The helicopter became the crucial FACTOR of the Vietnam WAR	metaphorical abstraction (x2)
8	as it took over the **duties** [[of moving troops, evacuating *wounded*, supplying food, weapons, and ammunition]],	modulation:thing embedded defining clause
9	and it was a **fighting** machine in it's own right.	process:classifier
1	The **fire support** bases supplyed heavy artillery, *back-up* for troops and **neighbouring** bases.	process:classifier; process:quality
	They provided a **landing** area for choppers,	process:classifier
1	were used as ammunition dumps,	
	and some had field hospitals [[that could **do** temporary **treatment**	process+Range;
1	for **wounded** soldiers]].	process:classifier
1	Another **result** of no front line was the **use** of **search and destroy** TACTICS.	relator:thing; process:thing; process:classifier; met. abstr'n
	These OPERATIONS served two **purposes**:	met. abstr'n; relator:thing
1	1) To reduce the resources of the Nth Vietnamese	
	by destroying their food (mainly rice), and weapons.	
	To destroy the houses [[which acted as a cover-up]].	embedded defining clause
1		
1		
1		
1		

	TEXT (cont.)	COMMENTARY (cont.)

1	2) To harass the Nth Vietnamese.	
2	**This** conveyed the MESSAGE [[that the allies had a CONSTANT METHOD [[of monitoring the **surrounding** land]] and that it had the **power** [[to lash out with great force against the Nth Vietnamese]]]].	'textual' met.; met.abstr'n (x2) process:quality; modality:thing; embedded defining clause (x3)
	Search and Destroy OPERATIONS were flawed in many ways	process:classifier; met. abstr'n
2	that they were more **detrimental** to the allies **morality** than it achieved in demoralising the *opposition* .	circ:quality; process:thing
2	These **FLAWS** were the FACT [[that the *opposition* could hide their resources well]],	met.abstr'n (x2); emb.def.clause
2	they could re-establish an area shortly after an OPERATION, which **meant** that the allies really didn't clear out any territory or gain any territory.	metaphorical abstraction relator:process
2	The Nth Vietnamese were very clever with the way [[they hid their resources]] by using underground tunnel systems and peasant houses.	embedded defining clause
2	These underground tunnel systems varied in sizes from a **one man** pit [[that allowed them to hide temporarily]], to vast networks	circumstance:classifier embedded defining clause (x2)
2	[[that could hold, feed, and supply with arms for about 5,000 or more people]].	
2	One battalion from the allies tried to search an entire complex and after one week they had only finished about 1/2 of it	
2	when they called it off.	
2	The FACT [[that the allies couldn't destroy a great deal]] **meant** that the Nth Vietnamese could disappear during the OPERATION	met.abstr'n.;emb.def.clause; relator:process;
3	and come back shortly afterwards to get the **hidden** resources	met.asbtraction
	and resume [[whatever they were doing]].	process:quality embedded 'act' clause
	Re-occupation of the land by the Nth Vietnamese **meant** that the allies weren't really gaining territory.	process:thing; relator:process
3	These three FACTORS demoralised the allies by making them realise	metaphorical abstraction
3	that they had a mammoth TASK [[of searching and destroying everything]].	metaphorical abstraction;
3	The little bits [[that they did search and destroy]] would be pointless as in most cases the *opposition* would come back,	embedded defining clause embedded defining clause
3	and the troops got a **sense** of **hopelessness** when they were attacking the same area [[that they had attacked before and where they might of lost friends or fellow companions on the previous **fight**]].	process:thing; quality:thing embedded defining clause process:thing
3		
3		
3		
3		
3		
4		
4		

This text demonstrates marked development both in terms of the quantity and types of grammatical metaphor used.

In relation to protometaphorical categories, we find only one instance of a Process+Range construction ('do treatment' [clause 13]) but a relatively large number of embedded clauses (fourteen defining clauses and one 'act' clause [clause 37]).

There are some thirty instances of grammatical metaphor 'proper' in a much wider spread of categories. As in the previous text, there are instances of:

quality : thing

and the troops got a sense of **hopelessness** [cl.44]
*[cong: 'and the troops felt **hopeless**']*

and of:

process : thing

The Vietnam war was the first of its kind with the **combination** of Guerilla warfare and Jungle warfare. [cl.2]
*[cong: 'The Vietnam war **combined** Guerilla warfare and Jungle warfare for the first time']*

Another result of no front line was the **use** of search and destroy tactics. [cl.14]
*[cong: 'Because there was no front line, they **used** search and destroy tactics.']*

that they were more detrimental to the allies **morality** ['morale'] [cl.22]
*[cong: 'that they made the allies **feel** worse']*

Re-occupation of the land by the Nth Vietnamese meant that the allies weren't really gaining territory. [cl.38]
*[cong: 'Because the North Vietnamese **re-occupied** the land, the allies ...]*

and the troops got a **sense** of hopelessness [cl.44]
*[cong: 'and the troops **felt** hopeless']*

... where they might of lost friends or fellow companions on the previous **fight** [cl.45]
*[cong: 'where they might of lost friends ...when they **were fighting** the previous time']*

In addition, however, we find a number of other types of grammatical metaphor being employed:

process : quality

The fire support bases supplyed heavy artillery, back-up for troops and **neighbouring** bases. (cl.10]
*[cong: ... back-up for troops and bases which **were close by**'] [??]*

... a constant method of monitoring the **surrounding** land [cl.20]
*[cong: ... a constant method of monitoring the land which **surrounded** them'] [??]*

to get the **hidden** resources [cl.36]
*[cong: 'to get the resources that **had been hidden**'] [??]*

process : classifier

Search and Destroy Operations in Vietnam [cl.1]
*[cong: 'Operations in Vietnam which involved the soldiers in **searching** for the enemy and **destroying** their bases.']*

This then led to the use of helicopter and **fire support** bases. [cl.6]
*[cong: 'This then led to the use of helicopter and bases designed to **support** the **firing** of weapons']*

and it was a **fighting** machine in it's own right. [cl.9]
*[cong: 'and it was a machine which **was able to fight** ...']*

The **fire support** bases supplyed heavy artillery, back-up for troops and neighbouring bases. [cl.10]
[cong: as above]

They provided a **landing** area for choppers [cl.11]
*[cong: 'They provided an area where the choppers **could land**']*

and some had field hospitals that could do temporary treatment for **wounded** soldiers [cl.13]
*[cong: 'and some had field hospitals that could do temporary treatment for soldiers who **had been wounded**']*

Another result of no front line was the use of **search and destroy** tactics. [cl.14]
[cong: as above]

Search and Destroy operations were flawed in many ways [cl.21]
[cong: as above]

conation : thing

... and that it had the **power** to lash out with great force against the Nth Vietnamese. [cl.20]
*[cong: '... and that it **was able** to lash out with great force against the Nth Vietnamese']*

circumstance : quality

that they were more **detrimental** to the allies morality [cl.22]
*[cong: 'that they made the allies feel **worse**']*

circumstance : classifier

These underground tunnel systems varied in sizes from a **one man** pit ... to vast networks [cl.30]
*[cong: 'These underground tunnel systems varied in sizes from a pit **for one man** ... to vast networks.]*

While all the above are concerned with the drift towards 'thinginess' within the nominal group, there are other instances which relate to the metaphorizing of the logical relationships between clauses:

relator : process

No front line **meant** that the allies had to find the enemy [cl.4]
*[cong: '**Because** there was no front line, the allies had to find the enemy']*

This then **led** to the use of helicopter and fire support bases. [cl.6]
*[cong: '**Because** they had to go out and find the enemy, they had to use helicopter and fire support bases']*

which **meant** that the allies really didn't clear out any territory [cl.26]
*[cong: '**and so** the allies really didn't clear out any territory']*

The fact that the allies couldn't destroy a great deal **meant** that the Nth Vietnamese could disappear during the operation
*[cong: '**Because** the allies couldn't destroy a great deal, the Nth Vietnamese could disappear during the operation']*

Re-occupation of the land by the Nth Vietnamese **meant** that the allies weren't really gaining territory. [cl.38]
*[cong: '**Because** the land was re-occupied by the Nth Vietnamese, the allied weren't really gaining any territory.']*

relator : thing

Another **result** of no front line was the use of search and destroy tactics. [cl.14]
[cong: 'Because there was no front line ...]

These operations served two **purposes**: [cl.15]
*[cong: 'These operations were used **in order to** ...']*

This text also contains an example of the interpersonal grammar becoming nominalised:

modulation : thing

as it took over the **duties** of moving troops, evacuating wounded, supplying food, weapons, and ammunition [cl.8]

*[cong: 'as it **had to** move troops, evacuate the wounded, supply food ...]*

A significant development in this text is the number of 'metaphorical abstractions' used - some eighteen in all, compared to the single instance in the previous text. In the title, the

nominalisation 'operations' is used to summarise the diverse activities employed in search and destroy warfare. (See also clauses 15, 25 and 34). Similarly, 'tactics' refers to the procedures used by the Vietnamese such as not fighting at the front line, hiding their resources, and re-occupying territory. (See also clause 14.) The nominal 'method' (clause 20) again refers to a particular set of procedures. 'Task' (clause 41) is a further example of a noun being used in reference to a particular activity or process (i.e. 'searching and destroying').

In clause 39, Nick uses the abstract nominal 'factors' to summarise the three happenings which demoralised the allies: the Vietnamese hid their resources well, they re-established territory soon after an operation, and the Americans didn't gain any territory.

The use of 'war' and 'warfare' as examples of grammatical metaphor (clauses 2 (three instances), 3 and 7) has been discussed previously in this chapter.

Similarly, we find 'message' and 'fact' being used in a summarising way:

> This conveyed the MESSAGE that <u>the allies had a constant method of monitoring the surrounding land and that it had the power to lash out with great force against the Nth Vietnamese</u>. [cl.20]
>
> These flaws were the FACT that <u>the opposition could hide their resources well</u> [cl.24]
>
> The FACT that <u>the allies couldn't destroy a great deal</u> meant that the Nth Vietnamese could disappear during the operation [cl.34]

And again, if we accept Martin's argument that text reference is metaphorical, then Nick's use of 'this' to refer back to previous stages of the argument reveals another important development.

> **This** then led to the use of helicopter and fire support bases. [cl.6]
>
> **This** conveyed the message that the allies had a constant method of monitoring the surrounding land]] and that it had the power to lash out with great force against the Nth Vietnamese. [cl.20]

What is significant about this text is Nick's use of grammatical metaphor to achieve logogenetic purposes. While both this text and the previous texts are historical accounts, and therefore more likely to employ metaphorical language, the grammatical metaphor in the Chinese history text is of an experiential nature. In the Vietnam text, however, Nick is

using grammatical metaphor to prefigure arguments, to accumulate arguments and to establish relationships of cause and effect. We saw the beginnings of this application of grammatical metaphor in the text on the history of trains in Australia at ten years of age. Now, at fourteen, Nick is quite consciously attempting to structure his texts in such a way that the arguments unfold coherently. At this stage, his attempts are not totally successful. Even after two readings of this text, I was not able to discern the 'patterns' which Nick was anxious to point out to me. He had to actually draw 'flow-lines' on it similar to those below before I could see how intricately he had woven together the text. Nevertheless, we might say that Nick's texts are demonstrating a much more 'adult-like' quality at this stage, due primarily to his use of complex forms of grammatical metaphor.

Search and Destroy Operations in Vietnam

The Vietnam war was the first of its kind with the combination of Guerilla warfare and Jungle warfare.
The allies, for all their technology, could not force the North Vietnamese back, due to their tactics incorporated for the types of warfare.

No front line meant that the allies had to find the enemy
to engage them.
This then led to **the use of helicopter** and **fire support bases** .

The helicopter became the crucial factor of the Vietnam war
as it took over the duties of moving troops, evacuating wounded, supplying food, weapons, and ammunition,
and it was a fighting machine in it's own right.

The fire support bases supplyed heavy artillery, back-up for troops and neighbouring bases.
They provided a landing area for choppers,
were used as ammunition dumps,
and some had field hospitals that could do temporary treatment for wounded soldiers.

Another result of no front line was the use of search and destroy tactics.
These operations served **two purposes** :

1) To reduce the resources of the Nth Vietnamese
by destroying their food (mainly rice), and weapons.
To destroy the houses which acted as a cover-up.

2) To harass the Nth Vietnamese.
This conveyed the message that the allies had a constant method of monitoring the surrounding land and that it had the power to lash out with great force against the Nth Vietnamese.

Search and Destroy operations were **flawed in many ways**
that they were more detrimental to the allies morality
than it achieved in demoralising the opposition.
These flaws were **the fact that the opposition could hide their resources well** ,
they could re-establish an area shortly after an operation ,
which meant that the allies really didn't clear out any territory
or gain any territory .

The Nth Vietnamese were very clever with the way they hid their resources
by using underground tunnel systems and peasant houses.
These underground tunnel systems varied in sizes from a one man pit that allowed them to hide temporarily, to vast networks that could hold, feed, and supply with arms for about 5,000 or more people.
One battalion from the allies tried to search an entire complex
and after one week they had only finished about 1/2 of it
when they called it off.

The fact that the allies couldn't destroy a great deal meant that the Nth Vietnamese could disappear during the operation
and come back shortly afterwards
to get the hidden resources
and resume whatever they were doing.

Re-occupation of the land by the Nth Vietnamese meant that the allies weren't really gaining territory.

These three factors demoralised the allies
by making them realise
that they had a mammoth task of searching and destroying everything.
The little bits that they did search and destroy would be pointless
as in most cases the opposition would come back,
and the troops got a sense of hopelessness
when they were attacking the same area that they had attacked before
and where they might of lost friends or fellow companions on the previous fight.

7.4 EPILOGUE

In this chapter we have seen how grammatical metaphor is contributing to the development of Nick's experiential linguistic resources in terms of certain types of technicality and abstraction and to his textual linguistic resources in terms of providing the means for organising the argumentation of the discourse. To round off this chapter, it might be of interest to look at some of Nick's reflections on his growing awareness of the nature and function of grammatical metaphor.

In this first excerpt from the transcript about the History of Trains text, Nick and I are discussing why he has written that the train took them 'to their destination' instead of 'to where they wanted to go':

M. Nick, when you said: "...and the Queensland train would take them to their destination" why did you say "their destination" rather than "...the Qld. train would take them to where they want to go"?

N. **"Destination" is written language and it is a noun.**

M. So what do you think you've done there? Instead of saying "...to where they wanted to go" - "to their destination"

N. I'll read it! "...where they wanted to go" **- it's a** ... **speaking language**. "That's where they wanted to go" and it's saying "that's where we want to go" and it's just a... oh whatever it was...**it's not written language, it's spoken**. **"Destination" has shortened it and made it into written language** - "That's their destination". Depends on the words ...on the words you use. Because **instead of using a pile of words - "to where they wanted to go" - I put it all into one word because it's called "destination"**. "Destination" means "where they wanted to go" and...and "destination" means that.

M. *(Laughter)* Right. So you're saying it...it's a shorter way of saying that.

N. Yeah. It's a shorter version of the long version.

M. Right. Um...Remember when we were talking before about packing things in? Packing things up in written texts?

N. Yeah. **Compacting** them.

M. Trying to package them up. Compacting them. Right. So do you think that's what you've done there?

N. Yes.

M. Uhuh. Do you...

N. **I've packed them up...but I've comp...I'm packing them up again, which I call 'compacting'**.

M. Compacting. Right.

N. And so **I've put those five words which I'd already packed up, I compact them, and put them into "destination"**.

Here Nick is demonstrating an intuitive awareness of the difference between oral and written language. According to Nick, the spoken version is already packaged into a five-word structure ('where they wanted to go') which he has then further compacted into a single word ('destination'), which is more characteristic of written discourse.

We later tried to generalise about the function of 'compacting' and how it might be used to improve a text. He first commented on the need for a good title:

N: ... a title to keep me focussed... you sum it all up and do one word, sort of like compacting it - it covers the whole subject

He then discussed the importance of anticipating the reader's needs by using 'problems' as an 'advance organiser', cataphorically foreshadowing the way in which the argument is to be developed:

N: ... **you need an introduction into what you're saying**. **You don't go straight into it, otherwise people say "oh, what's he talking about" until they get half way down the page** and they realise what he is talking about, so it's good to have a little introduction and say "**the problems**..." - something like about Australia and the train problem and how it was solved and **a summary of the whole text itself except in a couple of words and not very descriptive and they if they want to find out more they can read the rest of it**.

When pressed further about his later use of the abstraction 'problems' (together with the metaphorical classifier, 'importing'), he appeared to recognise its logogenetic, anaphoric function, allowing the prior spelling out of the nature of the problems ('it didn't always

come in time; it wasn't always there; then they used it up') to be summarised as 'importing problems' in order that the argument might move on.

> M: So Nick what would you think is one of the functions or the purposes of using this condensing or this compacting?
>
> N: To save space in writing. One thing - to make it sound that you're not repeating yourself like **you put exactly what you mean up here** and then **later they say "importing problems"** - it didn't always come in time; it wasn't always there; then they used it up - **so instead of writing all that down again and taking up much more space, you can put it into a couple of words and then you can just continue on with what you are saying.**

In the concluding chapter, we will come back to the issue of students' explicit awareness of the type of abstract, metaphorical language discussed here.

CHAPTER 8

DISCUSSION AND CONCLUSION

Throughout this thesis, two themes have predominated: the nature and parameters of grammatical metaphor and the growth of grammatical metaphor in later childhood. Each of these themes serves the other. On the one hand, a clarification of the nature of grammatical metaphor is necessary to the investigation of Halliday's 'third phase' (grammatical metaphor in later childhood and adolescence). On the other hand, empirical evidence regarding the ontogenetic development of grammatical metaphor is necessary in helping to substantiate the claim that the basis of congruence (and hence metaphor) is founded on the three histories of a text - the phylogenetic, the ontogenetic and the logogenetic.

This chapter will pull together the arguments and evidence presented in preceding chapters regarding these two major areas, and will then go on to raise further issues related to the study. It will conclude with recommendations for further research.

8.1 THE NATURE AND PARAMETERS OF GRAMMATICAL METAPHOR

The phenomenon of grammatical metaphor is the product of a stratified model of language where a 'natural' relationship is posited between the semantics and the lexicogrammar. There might well be those who would want to question the very foundations of such a model of language, and who, in doing so, would place in question the validity of contingent constructs such as grammatical metaphor. Even if one accepts the premises of a stratified, systemic model of language, there are still grounds for apprehension with regard to the notion of grammatical metaphor. Within systemic theory, for example, there remain a number of unresolved questions regarding the nature of the semantic and lexicogrammatical strata and the relationship between the two.

While acknowledging such matters, it is beyond the scope of this thesis to canvass such fundamental issues. Nevertheless, this study has endeavoured to clarify some of the

more specific concerns surrounding the notion of grammatical metaphor, in particular the question of boundaries.

One of the contributions of this thesis is the further development of a taxonomy of types of grammatical metaphor, building on the previous work of Halliday and Ravelli in this area. While the taxonomy is not exhaustive, it represents the major categories which are found in adult written language and which can be derived from a study of the metaphorical potential of the stratified language system. Further refinement of the taxonomy was undertaken during the analysis of the data as its application forced continual revisiting and validation of the categories. Innumerable trawlings through the data and modification of the categories and the analysis have resulted in the development of a robust instrument which provides a sound basis for further investigation. Whereas previous taxonomies relied on one or two examples to illustrate any particular type of metaphor, the categories in the present taxonomy have been substantially exemplified with instances from the data.

The availability of such a taxonomy, however, was not sufficient to clear up many of the misconceptions surrounding grammatical metaphor. Both in the literature and in informal discussion at seminars, there was evident a wide range of interpretations of what was encompassed by the notion of grammatical metaphor. While systemicists are generally loath to impose firm boundaries on such a complex phenomenon as language, it appeared that some lines needed to be drawn if grammatical metaphor was to retain its explanatory power. There were three major areas which had become susceptible to loose interpretation: transcategorisation, technicality, and ‘meta-abstractions’.

8.1.1 Transcategorization, technicality and abstraction

Instances of transcategorization are often mistakenly analysed as metaphorical due to the fact that their form often resembles examples of grammatical metaphor. Both transcategorization and grammatical metaphor tend to draw on the same resources of derivational morphology. As illustrated in the analysis of the data, however, they can be distinguished by referring to their context of use. The same form might, in one context, be an instance of transcategorization, and in another, an instance of grammatical metaphor. Again, we need to establish whether, in that particular context, two meanings are immanent. Where both a congruent and a metaphorical option is viable, then we could say that the instance is metaphorical. Where it cannot be 'unpacked' to a more congruent meaning, it would be regarded as simply a case of transcategorization.

With regards to technicality, this thesis has taken the view that, while grammatical metaphor may be implicated in the evolutionary phase of certain types of technical terms, once these terms have become established and located within a particular field, it is no longer the case that both the congruent and metaphorical options are equally 'at risk', and the term has become a 'faded metaphor'. There are cases however where the same term might be used metaphorically in one instance and technically in another:

metaphorical use:

N: Well, the **complication** is that the General comes along and "bags" it from the old iron woman who has already "bagsed" it.

technical use:

N. In the **Complication** part ...

In the first instance, the meaning is being developed instantially within the text, with the congruent meaning still in play ('the story gets complicated when ...'). In the second instance, the term is 'taken for granted', its meaning within the theory having been tightly defined and fully established (i.e. 'Complication' as a stage in the Narrative genre, along with Orientation and Resolution).

Perhaps the most problematic of the three troubled areas is that which has been called here 'liberal' and 'conservative' interpretations of grammatical metaphor. A conservative position would maintain that a grammatical metaphor should be able to be unpacked to a corresponding clausal configuration, retaining similar lexis. A liberal interpretation would extend the scope of grammatical metaphor (of the experiential kind) to include, for example, nominalisations which presuppose clausal meanings.

The issue of where to draw boundaries at this end of the metaphor continuum has emerged as the subject of lively debate amongst systemic linguists. At a series of systemic colloquia on logogenesis organised by Sydney University in 1993, the question of parameters and conditions for defining grammatical metaphor surfaced as a major concern following a presentation of the results of the present study. On the one hand there were those who wanted to keep the definition as broad as possible. These included those with an interest in ontogenesis who didn't want to close down possible avenues of exploration, and those involved in analysing the language of administration, who were tending towards interpreting terms such as 'scheme' and 'framework' as metaphorical on the grounds that they were 'collections of processes', 'instruments of social control which collected process meanings within a single abstract element' and which could be ranged along a 'hierarchy of periodicity'. On the other hand, there were

those who felt that one of the essential conditions for grammatical metaphor was that, in context, there must be 'a real, operative agnate'; that one has to be able to 'read the stratal tension'; that in a nominal group, for example, 'we must be able to see evidence of a transitivity structure'; and that in any instance of grammatical metaphor there is an 'immanent nuclear structure'. Given the controversial nature of this question, it will be pursued in greater depth in the following section.

8.1.2 Metaphor or 'Metacomment'?

As we have seen, one area of uncertainty in the defining of grammatical metaphor is related to nouns which function to summarise figures or sequences of figures. This phenomenon has been previously identified by Halliday and Hasan (1976) as 'extended reference', where 'the referent is more than just a person or object, it is a process or sequence of processes (grammatically, a clause or string of clauses not just a single nominal)' (p.52).

Mackay (1979) refers to such nominalisations as 'summary words' - 'words used to summarise a stretch of text':

> First she boiled the water in a small pot. Then she added a lot of sugar and after that, the coffee. She let it almost boil over three times before she was satisfied that it was ready. The whole **process** took about 15 minutes. (p.86)

Here the noun 'process' is distilling the previous sequence of clauses: boiling the water, adding the sugar and coffee, boiling the mixture, and so on. Mackay gives 'affair', 'case', 'problem', 'idea' and 'business' as other examples of 'summary words'.

Winter provides a list of vocabulary items which function in a similar way in that they predict ensuing discourse patterns (cited in Martin 1992a, p.217), e.g.:

action
event
reason
cause
result
fact
situation
manner
way
thing
problem
method

Francis (1986) uses the term 'anaphoric nouns' (or 'A-nouns') to refer to nouns functioning in this way. Rather than referring cataphorically as above, however, the A-noun sets up a discourse relation between itself and the preceding stretch of discourse.

Francis sees anaphoric nouns as an important organising feature of expository texts. They are used as metadiscoursal signposts by the writer at particular stages in the argumentation to summarise the preceding reasoning, to reformulate, to 'chunk' information, and to label the various stages of the argument so that the reader does not lose the thread. Francis provides the following criteria for identifying A-nouns:

- they are used metadiscursively to talk about the ongoing discourse
- they are used as pro-forms and as such are an anaphorically cohesive device
- they must also face forwards, being presented as the given information within a clause containing new information

Francis distinguishes between those A-nouns which presuppose mental processes ('cognition' nouns) and those which presuppose verbal processes ('utterance' nouns). 'Cognition nouns' refer to cognitive states and processes and the results thereof, e.g.:

> comparison, hypothesis, analysis, concept, evidence, idea, opinion, position, theory, belief, interpretation, view

Within 'utterance' nouns, she further distinguishes between those which refer semantically to illocutionary acts (and thus have cognate illocutionary verbs), e.g.:

> proposal, request, apology, explanation, reply, statement, warning, argument, suggestion

... and those which don't, e.g.:

> account, example, story, theme, thesis, message, summary, discussion, defence

Two other classes of A-nouns include 'text nouns' (e.g. chapter, text, words, sentence) and 'ownerless nouns' - those not associated with any particular writer or source (e.g. fact, phenomenon, issue, matter, factor, problem).

More recently, Francis (1994) has elaborated on the notion of anaphoric nouns, expanding the concept to include cataphoric nouns. These two types are now referred to as 'advance labels' and 'retrospective labels' respectively, with advance labels having a predictive organising role in the discourse and retrospective labels serving to encapsulate or package a preceding stretch of discourse.

Martin's liberal interpretation of grammatical metaphor would include much of the above as instances of ‘textual metaphor’. In *English Text*, he lists the following examples of Francis' A-nouns:

evidence
answer
argument
hypothesis
point
theory
viewpoint

and states that all 'are grammatical metaphors, reflecting the fact that congruent English reconstructs discourse as a rhetorical process, not as a product or thing' (p.217)

Nick's use of 'evidence' (Chapter 7), identified by Francis as an A-noun, is seen by Martin as being metaphorical. In a personal communication, he justified this judgement on the grounds that the verbal processes ('he said...' etc) had been generalised using a nominalisation ('evidence'). He alluded to its accumulating function, and noted that there was stratal tension (though he admitted to the problem of the lack of a test for stratal tension). When it was suggested that others might not see 'evidence' as metaphorical (e.g. Butt, who sees it as a summative cohesive item, but with no corresponding transitivity pattern[1]), he acknowledged that his liberalism might be explained by the fact that he was more interested in the discourse level, and that a grammarian might want to be more technical about defining grammatical metaphor, perhaps in terms of requiring a cognate verb.

Halliday and Matthiessen's more conservative interpretation would indeed appear to require such a condition, although occasionally we do find traces of a more liberal position. In the following text, for example, they have analysed the underlined words as being metaphorical, noting that in the cognitive sciences, 'processes of sensing are construed metaphorically as things; thinking, knowing, remembering, and so on are reified as concepts, knowledge, memory' (p.14):

[1] Personal communication

> Semantic memory is concerned with the structure of knowledge,
> with [[how knowledge is stored, cross-referenced and indexed]]:
> it is concerned with the organisation of everyday world knowledge, and
> with the representation of meaning.
> Semantic memory is not just an internal dictionary
> [[in which linguistic terms are listed and defined]].
> The elements are concepts,
> and although most concepts are defined by their properties
> not all concepts are verbal ones.
> Facts or propositions are represented by concepts
> [[linked in particular relationships]],
> and sets of propositions combine
> to form related areas of knowledge.
> Although there is a common core of culturally shared knowledge,
> semantic memory is personal
> because each individual's knowledge and experience differ.
> It is not just a static mental encyclopaedia, but a working system,
> in which new facts are constantly being incorporated,
> stored knowledge is being updated and reclassified,
> and particular items of information are being sought, located, assembled and retrieved.

They comment that 'figures of sensing are now realised not as mental clauses but as nominal groups taking on roles in clauses of various process types (predominantly relational)', summing up that 'while the domain of scientific theorising is determined by the grammar as the domain of sensing, the model is depersonalised and sensing is construed metaphorically as abstract things such as knowledge, memory, concepts' (pp.14-19).

Further on they give the following congruent example (p.19):

> Henry hadn't seen his aunt
> so he thought she was ill

... and then provide a metaphorical variant where the processes have become participants:

> Perception leads to inferencing

In most of the above instances, the analysis of the nominalisations as metaphorical tends towards a more liberal interpretation inasmuch as it is more difficult to unpack them to a closely corresponding transitivity figure. In the first example, the nominalisations appear to be more concerned with the naming and reifying of mental and other processes ('knowledge', 'experience', 'facts', 'propositions', 'concepts') than with

grammatical metaphor as strictly defined. In the second example, the nominalisation is functioning more as an abstract generalisation of a specific mental process with specific participants.

Similarly, Halliday (1986d) appears to take a fairly liberal view when he talks about each new step in the learning process depending on 'a summary, a putting together, of a large cluster of previous learning points' and refers to this as involving grammatical metaphor (p.14). This would seem to be a leap from the more local functioning of grammatical metaphor in terms of particular figures and sequences within the one text to a more global functioning across a series of texts where the congruent oral build-up in previous lessons is distilled so that the prior learning can be taken for granted and the teaching can move on.

A further category of 'summarising words' are included in Martin's category of 'textual grammatical metaphor' (see Chapter 4). Martin suggests that Halliday and Hasan's 'text reference' can be seen as metaphorical. Here the referent is a stretch of text - a clause or series of clauses - rather than a single participant, and is being referred to by such items a 'this', 'that', and 'it'. Matthiessen's description (1992a) of text reference - that it 'distills' meaning referentially and contributes a 'summary' of a segment of text meaning' (p.312) - has much in common with descriptions of the role of grammatical metaphor.

We find examples of this type of 'textual grammatical metaphor' in the data from eight years onwards:

> *Sometimes it won't come down*
> *because the wind pushes it back up.*
> after it has been doing **that** for a while
> *it might turn into hail,* [age 8]
>
> *In 1773 the British started to bring in opium, a drug from India*
> *to trade for silver,*
> **which** led to the Opium Wars, [age 9]
>
> *The managers of the industries say*
> *that « if we want the paper » they then have to have the trees*
> *to make it for us.*
> *But the conservationists say*
> that **this** isn't so [age 10]

Another category identified by Martin (1992a) as textual grammatical metaphor is similar to Halliday and Hasan's 'general nouns' (of the 'fact' type - e.g. 'question', 'idea') and Francis' 'utterance nouns'. These are metadiscoursal nouns which function to

organise text rather than field as social reality (e.g. 'example', 'point', 'factor') (p.420). From Age 9 in the data we find an increasing use of such metadiscoursal nominals such as the following:

> The administrator has many things to do on the "business" side of things, including some of **the following** :-
>
> Here's **an example**
>
> This brings me to my main **point** in my project,
>
> **Another point** I have to make is that we aren't only cutting down the trees
>
> "Matilda" one of Roald Dahl's latest books, is **an excellent example** (in my opinion) of exaggerating on real things
>
> and then **the conclusion** : can we still save our forests?

Halliday and Matthiessen (in press) refer to some of the above as ‘names of expansions’, commenting that they serve an important role in discourse, making it possible to talk about the organisation of discourse itself. They provide the following examples of different types of meta-terms for this and other types of expansion relationships:

Elaboration:

In all the **examples** which have been discussed so far ...
Instances such as those quoted earlier ...
Here is an **example** from spontaneous speech ...

Extension:

The **combination** of enhancement with hypotaxis gives ...
The **alternative** is to say ...

Enhancement:

There are two **ways** of approaching this situation ...
The **reasons** for choosing passive clauses are as follows: ... (p.163)

While Halliday and Matthiessen would not say that these are inherently metaphorical, there are certain instances which might involve grammatical metaphor, e.g.:

The **combination** of enhancement with hypotaxis gives ...
[When you combine enhancement with hypotaxis ...]

> The **reasons** for choosing passive clauses are as follows: ... (p.163)
> *[Passive clauses are chosen because ...]*

Martin's textual grammatical metaphor would also include those words which 'name the relationship between things'. In the following examples from Nick's texts, the relationship of 'part-whole' or of 'class-subclass' has been turned into a thing:

> The castle has many **parts** example for the keep, baily, gatehouse, court and the inner Baily and outer Baily. [age 8]
> without **the components** hanging around. [age 11]
> This is **the part** which turns the torch on and off. [age 11]

> Peking Man was one of the oldest **types** of human being on earth. [age 9]
> Here is **a classification** of these goats: [age 10]
> There are **four main kinds** of coal that are mined: anthracite found in the U.K., bitumous black coal found in N.S.W., Qld, S.A., brown coal found in Vic. and peat coal found in Ireland. [age 10]
> There are about 700 different **species** of birds, including 43 different **kinds** of birds of paradise. [age 11]
> Other **forms** of enjoyment that we have today in the pub are the video games and the wurlitzer [age 11]

In summary, then, grammatical metaphor is seen to encompass a multiplicity of phenomena at the 'liberal' end of the continuum:

- Generalizing nominals which refer to processes rather than things might be included, e.g. 'her actions' used to summarise the specific processes she engaged in; 'this process' used to represent a series of figures; 'this event' used to refer to a specific happening. (These can be contrasted with a superordinate like 'equipment' which simply generalizes a number of 'things' (tent, rucksack, sleeping bag, etc.).)

- Going beyond nominal representations of material processes, this argument is extended to include nominalisations of verbal processes (e.g. 'evidence' as discussed above); nominalisations of relational processes (Martin for example sees 'situation' as a collection of interrelated, simultaneous relational processes, a 'state' (p.c.)); and nominalisations of mental processes (e.g. 'concept', 'idea').

- The typology could be taken to a further level of delicacy if one were to refer to the logicosemantic relations holding between the figures in any sequence - e.g. 'journey' representing a series of temporally related figures; 'hypothesis' representing

conditionally related figures; ‘rationale’ representing a series of causally related figures)

- Halliday and Hasan's 'text reference' is seen by Martin as an example of textual grammatical metaphor, where a nominal element (e.g. 'this', 'that') is a preceding stretch of text.

- Metadiscoursal nominals which refer to textual reality constitute another of Martin's categories of textual grammatical metaphor, where a noun is used to represent a feature of discourse (e.g. 'example', 'point', 'conclusion')

It is obvious that a liberal interpretation allows for a proliferation of metaphorical types to the point where the original significance of grammatical metaphor risks being lost. One of the features which the above have in common is the role they play. Interpreted loosely, these nominal elements function to summarise or 'distill' a figure or sequence of figures. This is certainly one of the major roles played by grammatical metaphor. But it doesn't necessarily follow that any instance of this type of is inherently metaphorical. If we take as an example the following figures and their " nominal elements ...

A. Australia's trains and railways were delayed.
This **delay** caused great hardship ...

B. Australia's train and railways were delayed.
This **problem** caused great hardship ...

... it could be argued that both of these are examples of the same phenomenon - a nominal element ('delay', 'problem') is realising a semantically complex meaning in which both 'thing' and 'process' are immanent. As such, they would both appear to be instances of grammatical metaphor. What this characterisation neglects however is the fact that the two examples are operating at different levels of generalisation and abstraction. In Example A, the nominalisation 'delay' is lexically similar to the verb 'were delayed' and involves simply a compacting of the figure with no major change to its lexical meaning. There is a close agnation relationship between the congruent and the metaphorical. In Example B, however, the nominal element 'problem' 'transcends' its related figure. The line of agnation is less direct. The lexical content is not being replicated, but a new lexical item is being employed. It is a generalisation of the specific instance, 'Australia's trains and railways were delayed', rendering it more abstract. In addition, it is offering an interpretation of the situation as being a cause for concern ('This **problem** ...').

Martin maintains that all metalinguistic expressions are in fact instances of textual metaphor inasmuch as they are naming semiotic reality - 'not your ideational construction of semiosis - your verbal process - but nominalised reference to semiosis' (p. c. 22.9.92). Halliday has commented that in principle there seems to be no reason why we shouldn't look at some of the text-structuring expressions in terms of metaphor, but feels that 'the problem is that you might find yourself arguing that the whole of the textual metafunction is metaphorical anyway. That it's always so to speak taking over resources that have been developed in other metafunctions'. (p.c. 2.2.93)

It is obvious that this area is still the subject of some confusion amongst systemicists. Martin attributes this confusion to the fact that systemics does not have a very elaborated theory of 'things' - 'Problem is that we have no good 'thing' network to explain these abstract things. Haven't got a name for them. Haven't yet sorted out this area of 'things'.' (p.c. 14.12.93). The major confusion appears to be between certain types of grammatical metaphor and those 'meta-terms' which are used to refer to various aspects of the grammar. Both tend to play similar roles and have certain characteristics in common. Both are obviously of great significance in the development of language and learning in later childhood.

The position ultimately adopted in this study is that these two phenomena need to be distinguished. The term grammatical metaphor should be reserved for those instances which are 'unpackable', where every step between the most congruent and the most metaphorical versions of agnate clauses is relatable to the system and all unpackings are related systematically. Halliday and Matthiessen (in press) provide the following sample of such agnate forms:

> alcohol's dulling effect on the brain
> alcohol has a dulling effect on the brain
> alcohol has the effect of dulling the brain
> alcohol affects the brain by dulling it
> the effect of alcohol is to dull the brain
> the effect of alcohol is to make the brain dull
> if one takes/drinks alcohol it makes the brain dull
> if one takes/drinks alcohol the/one's brain becomes dull
> &c. (p.6)

The other types of abstraction canvassed here require a great deal more research, but in the meantime we might refer to these as 'metacomments'. They have a core of

functional affinity with grammatical metaphor and play a common role vis-à-vis the onset of the child's life of specialised and abstract knowledge. In discourse terms they both act as summative cohesive items, setting up textual opportunities and providing potential for foregrounding and backgrounding. Although they function in similar ways to grammatical metaphor, in this case there is no corresponding transitivity pattern to be retrieved. This would appear to be an area with great potential for further clarification and investigation.

8.1.3 Nominalisation

A closely related source of confusion is the use of the term 'nominalisation' (and similar terms such as 'reification', 'objectification', 'thingising', 'thingification', 'pseudothings', - though it is never clear whether these are always synonymous with 'nominalisation').

Nominalisation has traditionally referred to particular nominal expressions which may take the place of the noun in a sentence. Lees (1963), for example, in *The Grammar of English Nominalisations*, includes the following types of nominalisations in his taxonomy:

(i) Factive nominals
That he saw us concerned no-one.
Who he was concerned no-one.
I know what he did.
I complained that he was sick.
I told her who he was.

(ii) Action nominals
His rapid drawing of the picture ...
The committee's appointment of John ...

(iii) Agentive nominals
He's the seller of the car.

(iv) Gerundive nominals
Dressing oneself is fun.
To dress oneself is fun.

(v) Infinitival nominals
For him to go there is strange.
The new car is for him to drive.

(vi) Adjectivalisations
His willingness to leave...
The man's cleverness in going...

(vi) Abstractive nominals
e.g. depth, clarity, monstrosity

(vii) Relative clauses
The man who I believed had left was still there.

(viii) Post-nominal modifiers
The man standing there is John.

(ix) Gerundive adjectives
The endlessly babbling senators ...

Pitkin (1987) describes nominalisation as 'a device that allows us to make all or part of a base clause into a nounlike unit' (p.187) - one that will fill a noun slot in a sentence pattern, e.g.:

What he claims is ridiculous.
The doctor asked how I had been feeling.
The coach knew why we had stayed up late.
Giving a dog a bath can be very tiring.
To give a dog a bath can be very tiring.
The question is whether we have enough fuel left.

In systemic linguistics the term nominalisation appears to be used fairly loosely to refer to 'a drift towards the nominal'. What is disconcerting however is the way in which it is used in relation to grammatical metaphor. In terms of the above characterisations of nominalisation (even though drawing on a formalist paradigm), it is clear that certain of them would be regarded as metaphorical by systemicists, while others are not. However, in systemic literature is it common to find the terms 'nominalisation' and 'grammatical metaphor' used as if they were interchangeable, e.g.:

> This development - whereby phenomena previously construed as processes (and encoded as verbs) are interpreted as things (and encoded as nouns) - involves 'nominalisation', or what Halliday (1985) calls GRAMMATICAL METAPHOR.' (Painter 1991, p.79, upper case in original)

Halliday (1987c) gives the following examples of nominalisation effected through rank shift:

> It's very rude of him to come and spoil the fun.
> That you have wronged me doth appear in this. (p.84)

... and then implies that nominalisation is metaphorical, inasmuch as the function in the structure of the clause is being filled by something that itself has the structure of a clause, not by a nominal group - 'the congruent form'. (We have seen earlier that in fact the second instance would not be considered strictly metaphorical while the first one would.)

Martin (p.c.) maintains that ‘nominalisation is one type of grammatical metaphor - it always involves grammatical metaphor’. This interpretation underpins the following observation:

> A technical term may also be derived through nominalisation: that is, turning happenings into things which can be technicalised. This is where grammatical metaphor, specifically nominalisation, get mobilised. (in Halliday & Martin 1993, p.146)

In an attempt to clarify the use of these terms, this thesis would suggest

- that the terms ‘reification’, ‘thingification’, ‘objectification’, and the like, be used in non-technical ways to refer loosely to the general drift towards the nominal

- that the term ‘nominalisation’ be used technically to refer to specific linguistic phenomena involved in the nominalising process

- that nominalisation might include certain types of grammatical metaphor, but can also refer to non-metaphorical instances

8.2 THE GROWTH OF GRAMMATICAL METAPHOR IN LATER CHILDHOOD

Apart from its contribution to the clarification of the nature and parameters of grammatical metaphor, this study has also contributed to an understanding of language development in later childhood.

In terms of the broad field of language development research, it has provided a different way of understanding development at this age. The systemic framework has allowed for development to be discussed very specifically in terms of the relationship between the semantics and lexicogrammar. While it does not claim to be a comprehensive account of linguistic development in later childhood, it does nevertheless provide a new perspective which could only arise from a stratified model of language. In addition to identifying grammatical metaphor as a significant area of development, it is also possible, given a functional approach, to explain what motivates the use of different types of grammatical metaphor, how this use is influenced by certain contextual variables, and how grammatical metaphor functions experientially, interpersonally and textually.

More specifically, the study has contributed towards the development of a linguistic theory of learning, examining in an explicit way what is meant by 'expanding a child's meaning potential' in later childhood and adolescence. It has demonstrated the continuities between earlier and later language development in terms of the expansion of the choices available in the linguistic system, but has argued that the nature of that expansion is qualitatively different - not simply more of the same, but a redeployment of grammatical resources to realise semantically complex notions.

In addition, much of the qualitative data gave a picture of the social nature of language learning, where (in addition to other influences) adult intervention played a 'scaffolding' role in the child's 'growth into metaphor', with the adult both implicitly modelling the use of grammatical metaphor and explicitly discussing its nature and purpose.

In particular, the study has confirmed Halliday's suggestion that grammatical metaphor is a significant dimension of language development in later childhood, distinguishing children's use of language from that of adults. The results indicate that while it is possible to identify instances of grammatical metaphor in young children's language (used usually either in a formulaic way or in the sense of 'trailers' or 'gateways'), it is not until age 9-10 years that we find a dramatic increase in the number of instances. This finding not only lends substance to Halliday's claim that grammatical metaphor becomes a feature of older children's language use at around this age, but also confirms

his description of phases of development in terms of ‘generalisation > abstraction > metaphor’.

The study went further, however, than simply demonstrating the growth of grammatical metaphor. Because of the degree of delicacy built into the taxonomy, it was able to show how different types of metaphor emerged at different rates - those types which were more frequent, and those which developed earlier or later. It also suggested that certain protometaphorical types might be seen as important precursors of grammatical metaphor ‘proper’, providing models of the nature and function of metaphor. The more significant development, however, is when the child begins to deploy the resources of grammatical metaphor in a motivated, creative manner, often tentatively and awkwardly but increasingly with a sense of confidence and purpose.

Equally importantly, the study has made a contribution to the development of systemic theory, inasmuch as the explanation of the interstratal relationship depends on the notion of congruence which in turn is explained in terms of historical provenance - phylogenetic evolution, ontogenetic growth and logogenetic development. The congruent is said to be phylogenetically, ontogenetically, and logogenetically prior to the metaphorical. As we have seen, Halliday has undertaken a study of the development of scientific English which tends to give weight to the phylogenetic hypothesis. Matthiessen, Martin and others have demonstrated how the logogenetic development of a text tends to move from the congruent towards the metaphorical. This study has now provided the evidence from an ontogenetic perspective that the congruent precedes the metaphorical in the growth of children’s language.

8.3 ISSUES ARISING FROM THE STUDY

This thesis would argue that control over grammatical metaphor is critical to success in secondary school. In its experiential role, grammatical metaphor is intimately involved in the building up of technicality - the specialised knowledge of the different disciplines. In its textual role, it enables the logogenetic development of argumentation, providing resources for the accumulation, compacting, foregrounding and backgrounding of information and evidence so that the argument can move forward. It is not simply a matter of style - an ‘optional extra’ to render a text more ‘sophisticated’. Rather it is fundamental to the very nature of educational processes in the higher levels of schooling - the construal of experience into specialised domains and the reasoning about experience in abstract, logically developed terms.

There are those who would argue, however, that secondary education has over-valued the highly-compartmentalised, rigid, technicalised construal of experience imposed by the sciences. Halliday has described this kind of knowledge as an outcome of the 'rampant reification of science' (Halliday & Matthiessen in press, p.121), involving 'highly contrived metalanguages, with their excess of grammatical metaphor, nominalisation, and the like' (1986e, p.24). He has noted that this 'highly nominalised grammar construing a world of fixed, determinate, discrete and abstract objects cannot cope with the flux, the indeterminacy and the continuity which scientists now see as the deeper mode of reality' (1990b, p.27). The new physics, for example, is based on information exchange, communication and dialogue as opposed to linearity and causality (1987a, p.151). It has shifted 'from absolute to relative, from object to process, from determinate to probabilistic, from stability to flow'. (Halliday & Martin 1993, p.20).

Halliday predicts that the grammar will become restructured in significant ways, backing off from its present extremes of nominalisation and grammatical metaphor and become more tolerant of indeterminacy and flux. (Halliday & Martin 1993, p.20) The current reality, however, is that students are expected to deal with the static, reified world of the experimental scientist and hence must come to terms with grammatical metaphor.

Not all students, however, cope equally well with the metaphorised world of secondary education. It entails a substantial shift from the congruent world of childhood and spoken language. In their reading, students are confronted with texts which are abstract and dense. One of the effects of grammatical metaphor is the loss of information. When processes are reconstrued as things, for example, they lose their location in time and often also their participants (Halliday & Matthiessen in press). In strings of nouns the transitivity relations are left inexplicit, and relational verbs are often indeterminate. (Halliday 1988b, p.19) In the following example from Nick's texts:

> and **lots of DAMAGE** is being caused [age 11]

it is unclear who is doing the damage and to whom. Grammatical metaphor contributes towards 'a form of discourse which is highly explicit in its construction of argument (experimentation, formulation of general principles, logical steps in reasoning, and so on)' but which is highly implicit in its construction of content, resulting in many local ambiguities (Halliday 1989b, p.6; 1988b, p.18). Grammatical metaphor takes for granted the build-up of prior knowledge, relentlessly accumulating and compacting. In his reflections, Nick came close to describing just this phenomenon:

N: It's over-compacting it. You get a car, you compact it to the size you want and then you squeeze it down to a metal ball and it's not what you want - you can't figure out what it is ... it's like a compact car, you can tell when it's in a big cube that it is a car but when you get it down to a metal ball you no longer know what it is. I meet somebody who had already compacted it and they already know what it is, well they'll understand, and they say "well, that's a car, seen that before".

M: So the audience that I'm writing for, they would know what I meant by that compacted phrase "the usefulness of a wide lexical repertoire".

N: Yeah, but kids our age wouldn't. [age 10]

And in their writing, many students are at a loss as to how to make their essays meet the implicit expectations of their teachers. Teachers can intuit the difference between a text which successfully exploits the resources of grammatical metaphor and one which reads as ‘spoken’, ‘immature’ and ‘clumsy’. Grammatical metaphor, however, is part of the cryptogrammar which is buried deep below the surface of human consciousness (Halliday 1987a, p.143). Unlike lexical metaphor which challenges and disrupts, creating heuristic abstract spaces, grammatical metaphor is more covert, not drawing attention to itself as a process of semiosis (Butt, p.c.). Teachers are generally, therefore, unaware of how this phenomenon operates and how they might assist their students’ writing.

If students find secondary school alienating - the impenetrable technicality, the unreadable textbooks, the unfathomable examination questions, the unmanageable essays - this could be due in large part to the effects of grammatical metaphor:

> In the modern period it has not only turned generations of schoolchildren away from scientific studies, but also helped to make the whole experience of education seem more threatening and remote. (Halliday 1991b, p.145)

If becoming literate in the metaphorical language of secondary education means rejecting the wisdom of the commonsense world, then many will decide to disengage. It is possible that those more likely to disengage will be students from backgrounds which do not have a close fit with the values and expectations of the school. Ideologically, grammatical metaphor is seen to play a critical role in the distribution of power and favours those with social backgrounds where such language is taken for granted. Grammatical metaphor in Bernstein’s elaborated code is more likely to be ideational, which is often more associated with power, while in the restricted code it tends to be of an interpersonal kind. Even when the restricted code does employ ideational metaphor,

it is of a less generalised and abstract nature than that of the elaborated code, again equating with less power. (Halliday 1990b; 1978a)

Lawton's study (cited in Lock & Fisher 1984) of texts written by lower working class and middle class boys revealed that the writing of older and middle class boys tended to have a higher incidence of abstract and general content, with class being more significant than age gap. While Lawton himself did not include grammatical metaphor in his analysis, a quick survey of the texts reveals this to be a predominant feature of the boys' writing. Lawton makes the point that the use or non-use of such language has nothing to do with a student's capacity, but is rather a factor of circumstance. Corson (1985) also refers to class differences in students' use of the sort of high-status 'abstract and technical' language which is favoured in education and which confers sociocultural prestige on the person who uses it.

If we accept that some students experience greater difficulties with grammatical metaphor than others, and that this is often due to sociocultural factors and family background, then some intervention would seem appropriate. Martin (1993c) proposes that, faced with 'discourses of uncommon sense', teachers have three main options: reinforcing students' alienation by disregarding their obvious difficulties with the language of the secondary school; adopting a paternalistic attitude by avoiding technicality and abstraction and celebrating students' personal responses; or providing access by explicitly assisting students to gain control over the language necessary for engagement with the disciplines of secondary education.

Others would go further than this. While acknowledging that grammatical metaphor plays a legitimate role in the construction of educational knowledge as currently conceived, and that students need to be apprenticed into its use, they would also recognise the ways in which metaphorical discourse is often misappropriated for reasons of prestige, exclusion and status, rather than for educational ends. Halliday (in Halliday & Martin 1993), for example, accuses such language of being anti-democratic: 'its arcane grammatical metaphor sets apart those who understand it and shields them from those who do not' (p.21). The division it creates between the commonsense knowledge of daily life and the esoteric, technical knowledge is seen as dysfunctional. In certain discourses, it is largely a ritualistic feature, 'engendering only prestige and bureaucratic power. It becomes the language of the hierarchy, privileging the expert and limiting access to specialised domains of cultural experience.' (ibid, p.15) Barthes (in Cooper 1986) refers to the pathological nature of metaphor, where its inexactness allows speakers to evade responsibility. When metaphor is used in a 'taken for granted' manner, penetrating everyday consciousness, it can bolster false illusions of unity of

purpose and shared understanding (p.175). In relation to grammatical metaphor in particular, Butt points out the insidious side of grammatical metaphor:

> The price to pay for the distilling function of grammatical metaphor is that the presuppositions behind the metaphor don't get examined. There is a commitment to specificity but at the same time it is the highest order of assumptiveness about the nature of the phenomena in the discipline. (Butt, p.c.)

Butt asserts that in the process of socialisation, 'the guild' expects apprenticeship into the assumed knowledge of the discipline as a rite of passage. You can only be apprenticed into the guild, however, as long as you can believe in its heuristic fictions. Such fictions are created through the use of grammatical metaphor, acting as a mechanism for narrowing off your gaze so that you can sign up to what the guild decrees. In the need to move in close to one dimension and to meld a lot into something that is unitary for the sake of cohesion, other options are constrained and an idealised construct is presented as 'the truth'.

In a similar vein, Macken (1993) views technicality (and by implication grammatical metaphor) as reproductive of the status quo - a static, conservative view of learning, reinforcing the hegemonic orders of knowledge. She proposes that rather than simply inducting students into these discourses, that they be encouraged to deconstruct and challenge them. This view is endorsed by Painter (1991):

> If this model of implicit learning is adopted within the school then there is every likelihood that the successful language learner will be unresistingly coopted into the cultural values and assumptions which lie implicit in the texts which constitute the sources of school knowledge. Without explicit ways of reflecting on educational texts and other relevant public forms of speech and writing, the school will be apprenticing children into particular ways of looking at the world and of dealing with experience, without simultaneously giving them tools for being conscious that this is so, and for making choices about whether and how they will make use of this learning. (p.66)

8.4 RECOMMENDATIONS FOR FURTHER RESEARCH

As demonstrated above, this study has raised several significant issues in relation to language development in later childhood. The following would appear to offer fruitful avenues for further research.

8.4.1 Abstraction

Abstraction is arguably the key indicator of development in the language of older children and adolescents. In order to investigate this notion in greater depth, however, there needs to be a more delicate description developed within systemic theory. At present, abstraction is generally defined at a fairly basic level in a contrastive relation with concreteness (the concrete being viewed in terms of an 'extralinguistic' relationship and the abstract as an 'intralinguistic' process). This is obviously too gross a contrast for productive analysis:

> The traditional division of vocabulary into 'concrete and abstract' allowed a certain though not complete consensus on the nature of the former, while 'abstract' remained ill-defined. At best it was seen as roughly equivalent to 'non-concrete' or 'unpicturable'. More recently the abstract dimension is rightly regarded as much more inscrutable and as one in which there are notionally an infinity of levels moving in all directions, not just a simple plane as characterised in the ascending steps of 'superordinacy' or the simplistic meanings conjured up by the 'picturability-unpicturability' dichotomy. 'Abstract' is not an absolute notion; the traditional concrete-abstract dichotomy is better regarded as a continuum along which there are different kinds of abstractness. (Corson 1985, p.104)

Sometimes abstraction is placed in opposition to technicality, as in discussions of the 'technicality of science' and the 'abstraction of the humanities'. This is particularly misleading, as the sort of technicality[2] referred to (i.e. that involving the use of grammatical metaphor) is itself a type of abstraction.

The current work on logogenesis could profitably extend the description of various types of abstraction and the roles they play.

8.4.2 Metaphorical complexity and stages of development

As outlined in Chapter 6, there is evidence that different categories of grammatical metaphor develop at different stages, some being apparent quite early on in the written data and others not developing until early adolescence and beyond. The issues of whether the later developing categories are in some way more complex and how we might characterise complexity need to be addressed in greater depth than was possible in this study. It would be of interest, for example, to trace those categories which

[2] Ironically, even the term 'technicality' remains largely undefined in the systemic literature, leading to inconsistencies in its use.

developed later by continuing the study beyond the period of early adolescence and into adulthood.

8.4.3 Differential access to metaphorical discourses

It has been tentatively suggested here that sociocultural factors could play a part in the extent to which different students deal successfully with the demands made upon them by the metaphorical discourses of secondary education.

If grammatical metaphor is implicated in the alienation of certain students from secondary schooling, then it would be of interest to identify whether or not this is related to the students' sociocultural background. The present study was limited to a single member of a particular social group. Further studies might investigate larger samples of students from a variety of backgrounds to determine whether there is any relationship between the growth of control over various types of grammatical metaphor and the students' socioeconomic backgrounds, students' gender, or students' ethnicity (in terms of English as a second language).

8.4.4 Grammatical metaphor and teacher intervention

If a command of grammatical metaphor is critical to the interpretation and production of texts in secondary (and tertiary) education, and if certain students find such metaphorical language difficult to deal with, then it would seem that, in terms of equity, some sort of intervention by teachers would be called for.

Research needs to be carried out, however, into the most appropriate ways of intervening. Some would question whether, in fact, such sophisticated use of language is 'teachable', advocating that students be simply immersed in texts containing grammatical metaphor so that they might 'absorb' it unconsciously. Others propose direct intervention, getting students to practise changing 'verbs' into 'nouns' in their writing[3]. One might hope, however, that a linguistic theory of learning at this age would involve an explicit awareness of the functions of grammatical metaphor and critical reflection on its potential for misuse.

[3] e.g. The *Genre and Grammar* teacher inservicing materials produced by Metropolitan West Disadvantaged Schools Program, 1993.

Research into the teaching of grammatical metaphor might also consider the age at which such intervention would be effective. Both Martin[4] and Halliday[5] refer to 'puberty' in relation to the development of grammatical metaphor, implying that some sort of biological maturation process is involved. The data analysed in the present study, however, would suggest that children of quite a young age are capable of producing instances grammatical metaphor and are conscious of the difference between 'adult language' and 'children's language'.

As intimated in Chapters 6 and 7, the growth of grammatical metaphor might have less to do with maturation than with the types of texts with which young children are expected to engage. One avenue of research, then, might consider whether in fact younger children, given a curriculum which emphasises explanation, exposition, accounts and other such genres, are more likely to gain control over grammatical metaphor than those immersed in narrative and recounts. And if this turns out not to be the case, is it a matter of biological maturation or simply that it takes until late childhood for the linguistic system to be developed to the level of complexity that is required for its deployment in the production of grammatical metaphor?

8.5 CONCLUSION

In investigating the nature of language development in the later years of childhood and into adolescence, this study has gone beyond the identification of syntactic indicators of growth, opting instead for a view of language which sees grammar as a theory of experience. Such a grammar is not concerned with arbitrary conventions, but is deeply motivated by the very nature of our social and cultural institutions. In the context of secondary schooling, the theory of experience construed by the grammar is one characterised by density, abstractness, technicality and crystalline complexity. This study has endeavoured to make explicit how grammatical metaphor contributes to the construal of such experiential reality. In doing so, it has opened to scrutiny the discourses of secondary education and made available tools for the conscious investigation of their construction.

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[4] Martin linked the development of grammatical metaphor with the onset of puberty: 'Just going on the notion that primary and secondary school symbolizes something and most countries fix that around puberty. I wonder if there isn't something biological going on there.' (personal communication 22.9.92)

[5] '...there seems to be a rough correspondence in time - in individual development - between those changes at purberty and the ability to move into this latest phase of reconstruction of reality, if you like. And if there is any ultimate link between the two then I have absolutely no idea what it is. But that's because we don't know yet much about the neurones and neuronal processes that might be behind it.' (personal communication, 2.2.93)

At this point it seems appropriate to give the final word to Nick at age 12, who, when asked for his reflections on the usefulness of being able to explicitly discuss the workings of texts, likened it to making a cake - if you are presented with a ready-made cake you don't really know what's gone into it:

> You don’t know what’s in it. You don’t know how it was done. You don’t know what the ... ah ... author, or else in this case the baker did. Why he did it - and why in this way and why not in that way. You can’t see what it’s been through. You can’t see what’s behind.

With a greater understanding of the nature and role of grammatical metaphor, we might be better able to discern 'what's behind'.

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Appendix A

I. SHIFT TO 'THING'

Ia) QUALITY : THING

YEAR 5[1]
He used fire for **WARMTH**,
to scare away beasts at night
and to cook his meals.] [2]
but this expansion led to **too much RESPONSIBILITY**
Sun Yat Sen brought **FREEDOM** to the country,
there was **a lot of CONFUSION** and fighting.
There was still **a lot of POVERTY and BACKWARDNESS**,
they would dream of what we've got now, for example space to move, fresh air, small population, modernized transport, **FREEDOM to choose**, ownership of cars and houses and a higher salary.
His main RESPONSIBILITY is to bring things together and supervise the various activities of the people in the company.
Today I learnt **the DIFFERENCE** between a personel letter and a Buisness letter
There was also **a VARIETY of stone weapons, such as spears, arrows and crossbows**.
and she didn't take any notice of **China's huge MISERY**.
and to allow **a VARIETY of scenes** eg. the Market place, the Three Cripples, Mr Brownlow's house
Their HOSPITALITY is +A1
Their ENTHUSIASM is high
The students, encouraged by Chairman Mao, were the ones who started **this time of SADNESS**.

YEAR 6
The DIFFERENCE between Optical fibres and Optical cables are Optical fibres are the fibres used in the Optical cables.
Special effects also make it look more spectacular than real life, and For **the SAFETY of the actors**
† that has **the FAULT**. [3]

YEAR 7
and blankets can be used for **additional WARMTH**.
The SIMILARITIES between both deaths suggest
In serious cases of **COWARDICE**, poor fighting, etc. they were drowned in swamps.
indicating that **the HUMIDITY** is high
but it does not have **the same RUGGEDNESS.**
As travelling was **a great DIFFICULTY**,
The effects are already showing: the cracks and **a slight UNEVENNESS** on the verandah.
causing us **a big INCONVENIENCE**
but grows to **a HEIGHT of 3 metres**
There are trees that grow to 46 meters in **HEIGHT**

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[1] The data have been analysed in terms of grades. The corresponding ages are:

Year 1:	Age 5	Year 4:	Age 8	Year 7:	Age 11
Year 2:	Age 6	Year 5:	Age 9	Year 8:	Age 12
Year 3:	Age 7	Year 6:	Age 10	Year 9:	Age 13

[2] Where it has been considered significant, clauses surrounding the metaphor have been included, often because they provide a congruent contrast or because they indicate the build-up to the metaphor.
[3] The symbol † denotes a Process + Range/Medium construction

but are also encouraging other republics who have been seeking **FREEDOM** to take advantage of the turmoil and claim **FREEDOM** with them.

YEAR 8
and outline **their IMPORTANCE in history.**
† the Vietnamese took **PRIDE**
Conclusion: **The IMPORTANCE of the Vietnam war in history** is that it turned Vietnam from a foreign controlled country into an independent, communist country.
The conditions needed for proper germination are oxygen water and **WARMTH** along with self produced energy.
The temperature and weather vary so greatly that they have formed different zones of wildlife due to the lack of sunlight and **the extreme MOISTNESS** down the bottom to the dry, sometimes barren, walls of the top.
and used fire for cooking, **WARMTH**, and for scaring off animals.
The text changes to **adult SERIOUSNESS** with the brutal reality of the men being killed, drowned, blown to bits and partly blown to bits.
The SAFETY of the actors would have been put at risk.
Gwenda's feelings towards people are that of **DEFIANCE** and **INSECURITY**.
but when she sees **the REALITY of the creek's CLEANESS**
he still tries to keep **his GOODNESS**
I thought the ending was good with the fact that **all the peoples FEARS** were gone
when people fall over from **EXHAUSTION**
and collapses on the ground with **EXHAUSTION**.
For example, when Garraty sits down from **EXHAUSTION**
† that he has **TERROR**
Sydney in the 1870's was filled with **a VARIETY of characters**, street criers, stall holders, children, working families, sailors, ships captains, pickpockets and assorted criminals.
Abigail's feelings towards her mother change from a dislike and misunderstanding of her mother to **SORROW** and regret for not helping her.
that it is **their FAULT**.
in **FEAR of communism** spreading down into the Pacific region.
The Bay, including James Bay, is 1,690 km long and1,118 km. wide with **an average DEPTH of about 100 metres**.
its LENGTH to be approximately 5,000 km.
Estimated LENGTH is approximately 2,000 km.
The wind that had been teasing the tips of the trees, now gathered **STRENGTH**,

YEAR 9
His ranking, **BRAVERY**, leadership, all led him to become one of the greatest governors Australia has ever had.
DRUNKENESS, brawls, beating, flogging in public were some of the things that were all too common in the colony.
reducing **DRUNKENESS**.
Martin Cash felt concern for **Bessie's SAFETY**
† He had **the MISFORTUNE to stand next to two constables**,
† without the soldiers having **any FEAR of them escaping,**
† and don't have **any FEAR**.
The man in the turban, another regular, represents Slake's mistrust and **FEAR** of people, **his ANXIETY** and his paranoia.
These factors affect him so much that he refuses to do his paper round in **FEAR** of being told to the authorities
From these two encounters, **Slake's CONFIDENCE** grows.
Ben wears old ragged clothes for the sake of wearing them and **MODESTY** as well.
He displayed qualities of **COMPASSION** and **COURAGE**
which was the only thing of **VALUE**
for stealing eggs to **the VALUE of one shilling** along with some other farm produce.
Houses around the end of the lines became **very high VALUE**
† The minute amount of money that did exist held **no VALUE**.
adding to **the interior HEAT**.

Ib) PROCESS : THING

(i) MATERIAL PROCESS : THING
(ii) MENTAL PROCESS : THING
(iii) VERBAL PROCESS : THING
(iv) RELATIONAL PROCESS : THING

(i) MATERIAL PROCESS : THING

YEAR 1
Today I started earning poket money from fireweed **brik WORK** and **snail and grub WORK**.

YEAR 2
and we gave him a camping stove for **trout CAMPING** in the bushes.
When we were **on a CAMP**
You got on with **a running JUMP**
We also went for **a bush WALK** and horse riding.
† Becouse we didn't do **verey much WORK**
† Today we had **a long REHEASAL** on the stage instead of in our rooms for the Ukranian conset.
† so I went for **a WALK.**
While I was walking...]

YEAR 3
I had a bit of trouble at **the START off the race**.
[and started to shoot at him.
After **ten SHOTS** he was dead.
and **it's CRYING** reached the ears of the feared sailors.
† One day in 1888 A Ship had **a CRASH** at the reef near queensland.
*[cf final draft after teacher's correction: One day in 1888 a ship **crashed** onto the reef near Queensland]*

YEAR 4
and the cup will rise from **the FORCE of the air**
it was near **the END of the game**
† The knights are going to have **a BATTLE**
† After we had **a TASTE** of all the foods on the table
† wich has **a pretty strong SMELL.**

YEAR 5
After **the COLLAPSE of the Qin dynasty** there were several other dynasties.
One of the legends from the Tang Dynasty is all about a Tang priest who went to India to get the Buddhist scriptures with **the HELP of a Monkey King**.
after having **many, many centuries of hard LIFE** with **CHANGES going up and down.**
Now with **just a matter of weeks of PRACTISE** we had to perform .
Making the costumes is **hard WORK**
because it did all these things with **only minor CHANGES to props.**
Peking Man was **a HUNTER** and *[cf]* a person who gathered wild fruit.
there was a lot of confusion and **FIGHTING**.
We didn't mind **the REHEARSALS** much
† That was when we started to bring home scripts and do **PRACTICE**.
† The audience can see the actors doing **the PERFORMANCE**
† Have **weekly MEETINGS** with the director
because it did all of these things with **only minor CHANGES to props**.
because they didn't have any air conditioning in **the MAKING of the commercial of OLIVER !**
which is as friendly as any town in the whole Australia with **the CELEBRATION of 200 hundred of wite man**
The Cultural revolution was meant to be **a time of MODERNIZATION**

and to see how they're developing into **MODERNIZATION**
[The Qing emperors expanded the empire
but **this EXPANSION** led to too much responsibility
a book like this is not my Idea of **fun READING.**
† As all the prime ministers from every country were having **a MEETING** in Australia at the Brand New parliament house
† The reason that music is used is to help make singing nicer and to give **a BACK UP** in a musical production.
† there is **a lot of WORK to be done.**
† The reason why she is so busy is because she has to go on **a HUNT** to find all the things.
† because afterwards you have **lots of PAINS** in your neck, arms and shoulders.

YEAR 6
and after **10 hours of hard WORK with the crane** they managed to bring up the 6 million kg baby of Judy Nurke.
The bred goats need to have a feed in the morning, midday and later on at night with **a CHANGE of water** every second day.
These products are mainly used for **TRANSPORT**.
It is relatively pollution free for **USE in cars, industry and home.**
The air blaster goes on at **the SOUND of the blank**.
when not in **actual USE**
There are **a lot of USES** of paper nowadays for things like writing, reading, art, etc.
Because there are **so many USES for paper,**
Charge: **Attempted MURDER of Constable Fitzpatrick**
Charge: Guilty of **wilful MURDER of Constables Lonigan, Scanlon and Kennedy**
that it was not **MURDER** but **self DEFENCE**
† Ned Kelly was guilty for **taking the LIFE** of a person who was giving evidence to the police.
Although this was **a gallant BATTLE**
it was also **a fatal BATTLE**
The people who do it for sport or fun do it also sometimes to get comfortable and for **PRACTISE**
While he is on **his VISIT**
and made more discoveries before **his DEATH**.
In Armenia it has been chaos with earthquakes and **land-mud SLIDES**.
Lots of people got crushed to **DEATH**
Nowadays two horses are the only ones at **WORK**.
- more USE of public TRANSPORT
which made **PROGRESS** faster
The first problem was **the DELAY in building Australia's trains and railways.**
The reason for the DELAYS was that Australia didn't have any steel industries of its own
But that meant **a lot of CHANGING of the passengers and luggage**
† because they can have **FAILURES**.
Sometimes I have to help with **the TRIMMING of hooves** and drenching them with medicine.
We are also **a big EXPORTER of natural gas**.
The air blaster goes on **at the SOUND of the blank**.
to arrest Daniel Kelly on the charge of **horse STEALING**.
After the time of **the SHOOTING** there was a reward put out.
endangering the community, and **the SHOOTING of police troopers and hostages.**
but given **a long IMPRISONMENT**.
and when he comes out «(if you've got **good AIMING**)» of the bush
After **the cruel BELTING** Albert stands there
† It starts with Albert Jenkins about to **receive a BELTING**
† as though he hadn't **received the PUNISHMENT**.
But **the BATTLING** still goes on with Mike and John against the soil.
The KILLING had almost stopped now
because **the KILLING** has changed to watching them.
My opinion: **My Opinion on mountain CLIMBING** is that it is very dangerous.
Anyone interested in **golfball FINDING** should start off with suitable clothing.
that **GOLFBALLING** is a great pastime.
HUNTING fox to some people in Australia is a sport.
HUNTING for foxes can be made easier

But really the special effects man is faking **his DEATH.**
At **the END of the session** it felt
Towards **the END of the day**
Also because «when the doctor examined his wounds» there was **a SMELL of brandy**
Said Mr. collins with **a SIGH of relief.**
† as he was doing a**n illegal ACT** at the time.
[Koalas are cute and fury creatures and sometimes vicious
but apart from looks and **ACTIONS** they are Australia's most fussiest animal.
The reason why sattelites are losing favour **for COMMUNICATION** is because
Paper may be **a main form of COMMUNICATION**
† and had **different FEEL**.
† but he wasn't allowed to do anything that would make **a public DISTURBANCE**,
† and in case the female whale had **an early BIRTH**.
† because afterwards you have **lots of PAINS** in your neck, arms and shoulders.
† The Magelene satelite was launched five minutes before the deadline in which they would have **a WAIT of two years**.
† and did **a lot more DAMAGE**.
† **Some of the ARGUMENTS they had** concerned their lives
† and had **a TENDENCY to deteriorate**.

YEAR 7
and **lots of DAMAGE** is being caused.
The fire was prevented from burning further houses on Shoalhaven St by **an unexpected wind CHANGE**.
On a neighbouring farm the Irvine family witnessed **the CRASH**
Mr. Irvine went to **the scene of the CRASH** with neighbour Mr. John Noble
before **the horrendous CRASH**.
Not long after, the school was **the victim of another fire ATTACK**, this time on the English block.
to witness **the DEATH of her family**.
There have been many projects to raise funds for **REPAIRS of the road.**
that he would cut **IMPORTS**
and would expand **EXPORTS** to countries such as America and Japan.
She was also looking at the freshly dug fields which showed signs of **my TOIL and LABOUR**.
as they needed to confirm about **Elizabeth's DEATH.**
"We need **a little HELP**
We also need **HELP**
Some ceromonies envolved **the KILLING of slaves**
As they both have nearly the exact same conditions of **DEATH**,
† **the only CELEBRATIONS held** would be for **a BIRTH**, a new cheif, **a VICTORY** or **a MOURNING of someone who has died two years ago**.
The only other reason that I can see for them would have been **a SACRIFICE to the earth goddess**
My opinion is that they were killed as **a SACRIFICE** for some reason or other or else they killed them because of their position
The similarities between **both DEATHS** suggest
The rivers are **a means of TRANSPORT and COMMUNICATIONS**.
but in other places their are **very distinct CHANGES of wet and dry seasons.**
For each construction, the report discusses when it was built, **its original USE**, **current USE** and **any major CHANGES**.
and have explained **its USE in the nineteenth century.**
This led to **the COLLAPSE of the Woodstock school.**
There hasn't been **many CHANGES** except for the barn,
The effects are already showing: **the CRACKS** and a slight unevenness on the verandah.
until no more salt is produced after **the EVAPORATION**.
Just a few months after the first fire at Kiama High School there have been **more DISRUPTIONS**.
so I'll refresh your memory about the sorts of things that have happened since **our ARRIVAL in Jamberoo.**
Even though the people are rejoicing at **the thought of Gorbachev's RESIGNATION**
Sixteen of the twenty motorcyclists were out in the beginning of the race because of **a major COLLISION**.
especially when **the PAYMENT for hugs, kisses and handshakes** was a massive bag of lollies and a few movie vouchers.
while I was just finishing **a bit of CLEANING UP.**

It was **my superb COOKING and HOUSEKEEPING** which had lured Elizabeth into my clutches.
In serious cases of cowardice, **poor FIGHTING**, etc. they were drowned in swamps.
These great FLOODINGS bring lots of pumice-rich soil to the lowlands
when **levels of ENROLMENT** got high.
- there was **no self-SERVICE**.
making for **easier SWEEPING and WIPING UP**.
causing **EXPANSION and CONTRACTION.**
as the local dairy suplied by-products such as whey after **the SEPARATION of the milk**.
Another major problem is **the rising rate of UNEMPLOYMENT,** especially with young people
PNG is **one of the world's biggest EXPORTERS in gold and low grade copper**
Australia is **the main EXPORTER to PNG.**
Japan and West Germany are **the main IMPORTERS of PNG PRODUCTS.**
As **TRAVELLING** was a great difficulty,
The CLOSING DOWN of the Bougainville copper mine, for example, was due to **rebel MOVEMENTS**.
it is actually quite large with **a great climatic VARIATION**.
"Bad luck mister" with **a smug SMILE.**
Although the southern islands (called the Torres Straight Islands) are **in SIGHT of PNG,**
Finally **the PAIN** was so excruciating that he had to breath,
"The only possibility it could have been is **engine FAILURE**,
so **FLYING** and **WALKING** are about the only options open to people who want to travel.
along with **the hut CHANGES**
towards **the END of the day** we search for a sage and reasonably comfortable place to sleep.
but was **a MURDER**.
it was **a MURDER**.
Some ceromonies envolved **the KILLING of slaves**
Evidence of **the WORSHIPPING** is found by the statue and neckring that were found in a bog.
† The pilot aged 20 from Clare in South Australia was doing **a cross-country training FLIGHT**
† On 15th of february a group of kids (names unknown) staged **an ATTACK** on the local school,
† On the 15th of February a small group of people staged **an ASSAULT** on the small local high school.
† He took **one deep BREATH**
† he did **no manuel WORK**.
† Now I had to go and get **HANDSHAKES and sloppy KISSES and HUGS**

YEAR 8
After two nights with **no SLEEP**,
and the signs and symptoms showed **hair LOSS**, **lack of SLEEP** and **MALNUTRITION**.
and after **a night's REST** they set off for home.
- donated by France to America for **her ACCEPTANCE of migrants**
On **their RETURN**, they set off for the Empire State Building, once the tallest building in the world.
But the main climax is when Garraty sits down for want of **REST**,
He succeeded in transmitting bird malaria by **mosquito BITES**.
that there had been **a SWELL** on the north side of the mountain
Other countries, such as Australia were brought into **the FIGHT.**
When the Viet Minh had beaten the Japanese with **the AID of the United States**,
and that she hadn't given any support to her during **the BREAK UP**.
and stop any **ESCAPES**.
About an hour later we where still walking in single file with James in **the LEAD**
SALES in children's books has gone up dramatically over the last decade
then the community would be in more danger to accidents and **DEATHS**.
The barometer's function is to show **CHANGES in air pressure.**
They fight to **the DEATH** in most circumstances.
Architecture: **The USE of the arch and vault** enabled the Romans to make huge constructions such as the Colosseum, the Baths of Carracalla, the triumphal arches, the aqueducts, and the Pantheon with its enormous domed ceiling.
The recommended daily INTAKE is about 200 grams per day.
The BATTLE takes place
but it didn't cause **as much DAMAGE**
With my fellow conspirators from the Senate, we plotted the time and place of **Caesar's ASSASSINATION.**
- Japan defeated by the Allies with **the atomic BOMBING** (Hiroshima).

All I could hear was **the SPINNING of tyres** and the sound of guns,
so there was no chance of **SURVIVAL.**
where the fault line caused **the ERUPTION**.
The USAGE of the system was strengthened
which arose from the warring tribes and the need for **PROTECTION**.
Painting and Mosaic: Painting in Roman times was mainly used for **DECORATION**.
These were produced by **the** *[draft #1: erupting]* **ERUPTION of Mt. Vesuvious.**
which led to **a big EXCAVATION**
and it involved **the** *[notes: remodalization]* **REMODALING of Stonehenge.**
Also in **the** *[notes: remodilising]* **REMODOLING** the double circle was re-erected.
and used fire for **COOKING**, warmth, and for **SCARING OFF** animals.
These atrocious results are coming from **the HUNTING of whales for consumer products (perfumes, oils, meats).**
from being **border line EXTINCTION**,
and are faced with **EXTINCTION**
then turned fantasy with **the INTRODUCTION of the General and the old iron woman**
The setting changes quite often due to **the MOVEMENT of the characters** during the marathon.
and prevented **the KILLING of many more soldiers and prisoners.**
WORKING can be fun
that the Romans believed in **the SURVIVAL of the dead.**
Towards **the END of the war** «when the Japanese were thinking of surrendering» the Americans dropped the first ever atomic bomb on Hiroshima.
Towards **the END of World War II (WWII)**, the Japanese had been slaughtering the prisoners in most cruel ways.
His friends are unenthusiastic about playing the game at **the BEGINNING**
and was considered a bit weird at **the BEGGINING of the story.**
This was **the BEGINNING**.
and went to sleep in **PREPARATION for the long trip ahead.**
This EXPANDING and CONTRACTION triggers off a mechanism which shows the pressure.
This EXPANTION and CONTRACTION sets off springs
Germination is the restarting of **GROWTH** by the embryo inside a seed.
The conditions needed for **proper GERMINATION** are oxygen water and warmth along with self produced energy.
Early Sunday morning a baker was woken from **his SLEEP** by **the SMELL of smoke and crackling timber.**
- Japan invades Indochina during **the MOVE to conquer South-East Asia**.
When the Viet Minh had beaten the Japanese with **the AID of the United States**,
when suddenly there was **a loud EXPLOSION.**
The St. Lawrence River is an important commercial waterway for things like **TRANSPORTING wheat and grain**.
The range was formed by volcanoes and **marine SETTLEMENT**.
it is actually quite large with **a great climatic VARIATION**.
They removed the heart, lungs, liver, and the kidneys for **EXAMINATION**.
forcing children to receive **their early EDUCATION** at home either from their parents or from a tutor
† In 1891, E Dubois made **a startling DISCOVERY of some fossil specimens of a skull and thigh bone**.
Therefore seeing **the CHANGE in technology** meant to Abigail **a CHANGE in time**.
For example, when Garraty sits down from **EXHAUSTION**
They removed the heart, lungs, liver, and the kidneys for **EXAMINATION**.
After **ANALYSIS** he classified it as Pithecanthropus erectus,
I heard **a SCREAM**
† and that she hadn't given **any SUPPORT** to her during the break up.
† and doesn't give **any SUPPORT**
† yet her mother gives **full SUPPORT**
† and took **a little WALK.**

YEAR 9
This was what Lachlan Macquarie did as the fifth governor of NSW, during the longest period of **one-man RULE** in Australian history.
so leaving the free settlers with poor land and **lack of TRADE and money.**

Drunkeness, **BRAWLS**, **BEATING**, **FLOGGING in public** were some of the things that were all too common in the colony.
using **convict LABOUR**.
The main reasons for **this ATTACK on Macquarie's policy** is due to two things
(wheat is now **one of Australia's major EXPORTS**!)
Here he benefited from **the healthy LIFE of a stockman**
On **his RETURN to the prison** he met Lawrence Kavenagh and George Jones
and had the police double **their SEARCHES for the gang's hideout.**
It was in **his SEARCH for Bessie** that he stopped into the Bluebells of Scotland Inn.
ending up in **a gun FIGHT.**
A CHASE began with Martin,
where in **the ensuing FIGHT** Martin Cash shot Constable Winstanley through the left breast.
Touch identifiable switches needed **a forceful PUNCH**
and pay compensation for 10 db of **hearing LOSS** in our ears, frostbitten toes and hands,
The BATTLE is still continuing with verbal abuse etc.
Coal is formed after millions of years from **the DECAY and BURIAL of plants that would have existed in freshwater swamps**.
so that **the bacterial DECAY** can transform the plants into peat.
In the beginning of the play Bassanio asks for **a LOAN from Antonio.**
Slake in one of **his ESCAPEES from a gang** runs into the subway
and he begins to see people as individuals in need of **HELP**.
His ranking, bravery, **LEADERSHIP**, all led him to become one of the greatest governors Australia has ever had.
Also due to **the INFLUX of many migrants,**
The RULING had changed from a governor such as Arthur Phillip to the corps
the TRADING of rum
He hired Francis Greenway an architect who had been convicted for **FORGERY**.
as **the more PUNISHMENT** would cause the convicts to rebel against authority.
On **Macquarie's ARRIVAL in England** he was already a thing of the past.
The main factor for the constant criticism is due to **Macquarie's MISMANAGEMENT** and his policies.
to investigate **Macquarie's ADMINISTRATION.**
that the Parramatta Female Factory was put to **ILL USE**
thus making the policy **one of the major CONTRIBUTORS to the BREAKDOWN of the rum rebellion**!)
This judicious BEHAVIOUR undoubtedly saved him from a death sentence.
Martin Cash's most notable crime was **the SHOOTING of Constable Winstanley.**
In the afternoon I tried **some PANNING** quickly, «(which was very difficult to grasp at first)» to no avail.
after more than a year of **continous MINING and PANNING.**
What followed could see **the CHANGING of dress attire** at school.
Upon **his ARRIVAL at home** he told his father all that had happened.
There has been **much FIGHTING** lately
to make coke for **the MANUFACTURING of Iron and Steel.**
as it extracts almost all of the coal (90%) as opposed to **the 50% EXTRACTION of the coal** in underground mining.
There are various methods of **EXTRACTION** used in underground mining.
BUILDING and **DESIGNING** came to a standstill
and once again **BUILDING** took off.
The CONSTRUCTION of the railway expanded the suburbs and the need for houses.
The BUILDING slowly recovered
With taller buildings came **the INTRODUCTION of passenger lifts - a bliss of the modern shopper.**
Upon **ARRIVAL** he was immediately employed as assistant to Surgeon-General White,
They created a firm whose goals it was in whaling, sealing, sandal wood, **boat BUILDING** and **wholesale and retail TRADING.**
The main criticism of him was **the ever increasing EXPENDITURES on the colony.**
I apprehended her with **the HELP of the local police**
In **the BEGINNING of the play** Bassanio asks for a loan from Antonio.
how Antonio changes through the play - from over-generous at **the BEGINNING**, to depressed when his ships are lost, to relieved at **the END**.
to cope with **the INCREASE of the population.**
The other factor for **this INCREASE in churches** was that so many different nationalities had come out

Many fires caused **a CHANGE in the building materials**.
SITTING into my seat gave me complete satisfaction that I had bought the right car,
Today I was able to control Raja under **the DETERANT of gunshots**.
Raja can sense **this CHANGE**.
which then load the coal onto rail cars for **TRANSPORT** to consumers.
I will discuss **his CHANGES in his character** in the light of one of the major themes in the play - reasoning and emotion.
Portia's USE of clever logic helped to overcome Antonio's predicament
It is not until **the END of the book** that the two stories come together.
Exclusives consisted of the rich who had **no convict TAINT**
† that the only way to keep a convict in its right place was to give them **severe PUNISHMENTS**.
† Soon Martin Cash started making **secret VISITS** to her
From **these two ENCOUNTERS**, Slake's confidence grows.
as you can write/ say **your own EXPERIENCE.**
Despite **extensive RESEARCH** further information was not found.
and after **a long mental BATTLE** he goes to the cages.
and galloots were postioned along the working columns as **a DETERENT**
The battle is still continuing with **verbal ABUSE** etc.
Finally there is **a CONFRONTATION**
when there was **an ARGUMENT**,
that Antonio has absolutely **no CONTROL over the situation**
caused by **his lack of CONTROL over his EMOTIONS**
Until **a CONFRONTATION** where Slake finds out
† and lived **the LIFE of a farm boy** until his late teens.
† Cash & Co made **RAIDS** on nearby homesteads for food, money and ammunition.
† and gave **CHASE**
† I have made **several more CONTACTS** with the animals
† who started making **weekly VISITS**.
† and most of them are starting to have **a bit of TRUST in me** even Ranee
† Meanwhile, the other character in the sub-story, Willis Joe, has been leading **a very boring, self-centred LIFE.**
† Coming to **a STOP** proved to be an extreme hazard
† Irving had **an untimely DEATH** on 3rd September, 1795.
† in fact he has **very little INFLUENCE** over the play in general,

(ii) MENTAL PROCESS : THING

YEAR 3
some have **poor EYESIGHT**
and some can see well.]

YEAR 5
The Chinese cut themselves off from **outside KNOWLEDGE**
[I plan
to reach the spice islands ...
The King of Spain wasn't interested in **my PLANS**.
The Theme on instructions has bought me **great PLEASURE**
It bought me **great PLEASURE** to make somthing as a theme that is art
The plant theme has bought me **a lot of INTEREST** to me
† Today I had **so much FUN** with Paul and Mark and their instruments.
*[cf I thoroughly **enjoyed** these sort of games such as zigzag]*
There is not even a brick as **a REMAINDER**. *[reminder?]*

YEAR 6
Marty is an inexperienced camper with **no KNOWLEDGE of camping whatsoever.**
On the other hand Albert is an experienced camper with **KNOWLEDGE on camping and survival.**
The INVENTION of the telescope led him to **a whole lot of DISCOVERIES about the planets**
† and made **more DISCOVERIES** before his death.
† Before Galileo made **this DISCOVERY**
† These were not **the only DISCOVERIES that Galileo made**.
† and came to **the CONCLUSION that Ned Kelly was treated unfairly**
he was later kicked out of the police force because of **his REPUTATION for lying.**
After **Mt. Buffalo's REPUTATION** had spread overseas
His AMBITIONS are to race at carnivals
† European archeologists would not have **such a good IDEA** about early man.

YEAR 7
Our first THOUGHT was to settle in.
Even though the people are rejoicing at **the THOUGHT of Gorbachev's resignation**
and confirmed **Ross' BELEIF that the Anopheles mosquito carried human malaria.**
they found themselves in the heart of Harlem - a black neighbourhood with not another white person in **SIGHT**.
Oh how I rejoiced at **the SIGHT of his guts were spilling everywhere**
The reason why they are popular is that children are finding **a CHALLENGE** in reading booksalong with adults
My THOUGHTS: Ecology is the study of homes or habitats.
the walkers are overwhelmed with **the SENSE that they can see where they are going and all the colour.**
I have recently read your article in the "Sunday Times" about **your groups DISCOVERY/RESEARCH on "Pete Marsh".**
that **your FINDINGS about "Pete Marsh"** are similar to that of **my FINDINGS about "Tollund man".**
The DECISION was partly made by the situation of the old dunny (at the far end of the school) and the magpies that swooped down on the kids
† There were a few new athletes who made **great IMPRESSIONS** on the officials
Although the southern islands (called the Torres Straight Islands) are in **SIGHT of PNG**,
† and every now and then you would be able to catch **a GLIMPSE of her brain**.
† so I'll refresh **your MEMORY** about the sorts of things that have happened since our arrival in Jamberoo.
† **The DECISION** was partly made by the situation of the old dunny (at the far end of the school)
and the magpies that swooped down on the kids

YEAR 8
Won the 1902 Nobel prize for physiology or medicine for work that led to **the DISCOVERY of how to combat malaria.**
they are now people with families, **FEELINGS** and individuality.

giving **a variety of READINGS.**
Abigail's FEELINGS towards her mother change from **a DISLIKE** and **MISUNDERSTANDING of her mother** to sorrow and **REGRET for not helping her.**
Gwenda's FEELINGS towards people are that of defiance and insecurity.
My FEELINGS about the story are ambiguous.
Over time, however, with **great ENCOURAGEMENT from Doubleday printers** he managed to make his first bestseller, Carrie.
it is that of the people, the crowds and **their REACTIONS to the walkers.**
it brings to mind visions of similar characters from books and movies such as the tin man from the Wizard of Oz, that didn't have a heart, the Iron Man who also does not have **FEELINGS**.
and give me **your OPPINION on it**.
the ending was good with the fact that **all the peoples FEARS** were gone
by making him build up **a HATRED and DISTRUST**
† he showed **little INTEREST** in anything but drawing.
† but do not give **a CARE** to the people that fought and were affected.
† Macquarie had **INTENTIONS to explore and extend the settlement westwards.**
† But he has **other PLANS to put David away**

YEAR 9
The committee still wear red socks under their regulation black socks in **the HOPE that they some day may be able to wear any colour socks at school.**
but not **a full TRUST!**
The good points about the book is it shows **Adrians THOUGHTS** exceptionally well
Our CONCERN for Antonio heightens
The priory preaches **it's BELEIFS**
The man in the turban, another regular, represents **Slake's MISTRUST** and fear of people, his anxiety and his paranoia.
Slake Aremis is **a REJECT of society**, neglected by his family and constantly hounded by gangs of bullies.
this being due to **his medical KNOWLEDGE**.
Sitting into my seat gave me **complete SATISFACTION that I had bought the right car**,
and shows **his OPINION of the things that happen around him**
In the play Antonio let **his EMOTION** overule **his JUDGEMENT**,
thus causing Shylock to let **his JUDGEMENT** overule **his EMOTIONS**,
and asking of **his WELL BEING**
† Macquarie had **INTENTIONS to explore and extend the settlement westwards.**
It was at this point that Martin Cash built up **his REPUTATION of being a gentlemanly bushranger**.
Martin Cash felt **CONCERN for Bessie's safety**
He reacted with anger, fury, **a FEELING of his privacy being invaded**,
Most in **DEMAND for building** was churches.
† **This DEMAND** was being made
Bricks were becoming more in **DEMAND**
† without the soldiers having **any FEAR of them escaping,**
† and don't have **any FEAR**.
† **This CONCLUSION** I draw from the fact that the Red King ended up dying on this flame of his

(iii) VERBAL PROCESS : THING

YEAR 4
If you get **a REPLY**

YEAR 5
[I learnt
that reading a book from another country «without knowing **the meaning**» can be fun
... and trying to find out
what it means.]

YEAR 6
Nuclear energy is not **the ANSWER to our energy needs**.
After **the ALERT** I will go on to some solutions such as recycled paper
to arrest Daniel Kelly on **the CHARGE of horse stealing**.
Personal definition: **My personal DEFINITION of a lever** is something that can prise up something
† and had **a DISCUSSION on how we could move it from one place to the next**

YEAR 7
There have been **lots of QUESTIONS as to why officials didn't postpone the race to a later date**.
I mumbled **my REPLY**.
which supports **the SUGGESTION that religous ceremonies were performed on bog sites**.

YEAR 8
"Relax!" was **the smirking REPLY**.
"Stop whining!" was **the curt ANSWER**.
You are given **three WARNINGS**.
he collects **three WARNINGS**
They collect **three WARNINGS**
At the very beginning he collects **three WARNINGS** in an attempt to see

YEAR 9
who controlled what happened without **the CONFERENCE between what other people would have liked to have proposed.**
On the way to Sheffield I had to sit through **a TALK from an old lady**
The main factor for **the constant CRITICISM** is due to Macquarie's mismanagement and his policies.
The main CRITICISM of him was the ever increasing expenditures on the colony.
when he agrees readily to **Shylock's apparently "jovial" SUGGESTION that Antonio forfeit a pound of flesh**
Their PROTEST however had no effect on Mr. Scruton
There was **a general URGING for more churches to be built**

(iv) RELATIONAL PROCESS : THING
[including circumstantial relational processes]

YEAR 4
His APPEARANCE is very nice with short straight fur.

YEAR 5
they would dream of what we've got now, for example space to move, fresh air, small population, modernized transport, freedom to choose, **OWNERSHIP of cars and houses** and a higher salary.
that **the WEIGHT on each side** is equal
because it is one way of registering **the goat's IDENTITY**.
because you can't have one end without **as much WEIGHT** as the other

YEAR 6
[Koalas are cute and fury creatures and sometimes vicious
but apart from **LOOKS** and actions they are Australia's most fussiest animal.
that «even though the cannonballs were **different WEIGHTS**», they made contact with the ground at the same time.
if **the WEIGHTS** are completely different,

YEAR 7
the street had managed to re-establish **it's LOSSES**,
as the store has passed through **many OWNERSHIPS**.

YEAR 8
carrying **their life POSSESSIONS**
and the signs and symptoms showed **hair LOSS**, **LACK of sleep** and malnutrition.
The temperature and weather vary so greatly that they have formed different zones of wildlife due to **the LACK of sunlight** and the extreme moistness down the bottom to the dry, sometimes barren, walls of the top.
Soon **the position and NAME of Pompeii** was forgotten.
The REMAINDER of the senators fled from the theatre in a body

YEAR 9
so leaving the free settlers with poor land and **LACK of trade and money.**
Made schools to cater for **kids LACK of education.**
as well there was **the LACK of evidence and witnesses** for them to appeal
caused by **his LACK of control over his emotions**.
Also the **LOSS of his privacy**,
His biggest LOSS is his manuscript book
SHORTAGE of currency
and write **a COMPARISON about how you felt and how Adam and Seth probably felt and why?**
These characters contribute to **the DEVELOPMENT of Slake's more positive personality.**
and pay compensation for 10 db of **hearing LOSS in our ears**, frostbitten toes and hands,
She was sent to gaol for **the POSESSION of stolen goods**.

Ic) PHASE OF PROCESS : THING

YEAR 3
I had a bit of trouble at **the START off the race.**

YEAR 4
it was near **the END of the game.**

YEAR 7
Sixteen of the twenty motorcyclists were out in **the BEGINNING of the race** because of a major collision.

YEAR 8
Germination is **the RESTARTING of growth** by the embryo inside a seed.
Garraty meets a few people before **the BEGGINING of the walk**
how he had seen **the END of the race**

YEAR 9
Events throughout the book bring their outlooks to a normal standard and **a fresh START** to life.
Building and designing came to **a STANDSTILL**

Id) CONATION : THING

YEAR 5
† and therefore it would be **a financial SUCCESS**

YEAR 6
† and it had **great SUCSESS**

YEAR 7
The fire was stopped only by **frantic EFFORTS** from people who axed down a shop to create a breakage.
† On the 15th of February a small group of vandals made **an ATTEMPT to burn down parts of Kiama High School.**
After **three ATTEMPTS** the scoundrels managed to set the building alight.
† Captain Honey then made **an ATTEMPT** to swim into shore with his wife
† Mr Wood made **a stupendous ATTEMPT** to save his three children
It also demonstrated the American powers in **an EFFORT to show the world**
† The Kiama High School athletics carnival was **a great SUCCESS**
With these people and a few others who also went great K.H.S. should be expecting **a fabulous SUCCESS** at the Zone carnival.

YEAR 8
† **Many ATTEMPTS** were made to stop the fire such as chains of people with buckets of water
† **An extra EFFORT** has to be made
At the very beginning he collects three warnings in **an ATTEMPT to see**
† They had **little SUCCESS**.
† and goes on **his QUEST to find back his inheritance**

YEAR 9
English style houses started to appear in **an EFFORT to make Australia more European**.

Ie) MODALITY OF PROCESS : THING

YEAR 3
[Answer: NO bats arn't really blind
† some have **POOR EYESIGHT**.
[i.e. 'can't see well']

YEAR 5
but this expansion led to **too much RESPONSIBILITY**
His main RESPONSIBILITY is to bring things together

YEAR 6
† Lonigan was doing **his DUTY**.
Ned had **the OPTION of shooting them**

YEAR 7
"**The only POSSIBILITY it could have been** is engine failure,
which supports **the SUGGESTION that religous ceremonies were performed on bog sites.**
† but the most scary part is that they were twins and old man chompers has **BAD EYESIGHT**.
There would be **a NEED to have modern firefighting equipment hidden**
so flying and walking are about **the only OPTIONS** open to people who want to travel.

YEAR 8
The American scientists had just invented a powerful bomb with **the CAPACITY of more than 20,000 tons of TNT all into one relatively large bomb.**
so there was **no CHANCE of survival.**
† that children didn't even have **a 50% CHANCE of living** in these radioactive conditions.
Work is also **an OPPORTUNITY to meet new freinds.**
and this is **a great OPPORTUNITY to meet people and their lifestyles,**
which arose from the warring tribes and **the NEED for protection.**
To improve **their ABILITIES at public speaking**
There would be **a NEED to have modern firefighting equipment hidden**
because there is **the POSSIBILITY that somebody will read the books**
This caused **the NEED for more roads and bridges**
† Concrete and iron had **their POTENTIALITY**
It also demonstrated **the American POWERS** in an effort to show the world
what is **the daily REQUIREMENT**?
There are **very few OPTIONS open to the government**
The Soviet government has **very few OPTIONS open to it.**
as **the OPTIONS** were numerous
The main HYPOTHESIS are, that it is used for Astronomy,

YEAR 9
The construction of the railway expanded the suburbs and **the NEED for houses.**
and he begins to see people as individuals in **NEED of help.**
But the main climax is when Garraty sits down for **WANT of rest**,
He was under great pressure from the government back in England and also **the NEEDS of the colony** for it to survive.

If) MINOR PROCESS : THING

(This category includes the category of 'Circumstance : Thing')

YEAR 5
The mammoth was gigantic in size about **two times the SIZE of an ordinary elephant**
and the tusks were up to two metres **in LENGTH**
and exploring **the INSIDE** of the plants
This gave us **an Idea of the DISTANCE it would be**
Also the coluors shows you **the TEMPRATURE of the star**
SPACE **DISTANCE** IN LENTILS
If the earth was **its usual SIZE**
and my mouth at **the highest VOLUME** possible
The HEIGHT of the Wall averages 8 metres.

YEAR 6
because a train couldn't climb **such a HEIGHT** in one go.
The way they did it was a train would go up the mountain on a diagonal stroke **to a certain DISTANCE**
and it had **a death RATE** of 50,000 people a year.
The RATE of whales has increased since 1965 from 800 to 2000.
and are stil disapearing at **a RATE of a hectare a minute**
The PRICE depends on the condition of the golfball and colour,
† But then the story shows **the PRICE that was paid** just for the glory of power
By getting a tin about **the SIZE of a pineapple tin**
The double wattle cassowarie is about 1.80 cm «(when erect)» in **HEIGHT**
The White Pointer shark can grow up to 11m long **in LENGTH**.
Doug Scott started climbing at twelve years **of AGE** on big rocks.
[cf I started at eight years old]
And we will have to find **SUBSTITUTES** for them.

YEAR 7
but a large ovalic one on the bottom **in RESEMBLANCE to a head**.
And the footprints that we found in the freshly dug earth were **the EQUIVALENT of two people's weight - or a very large lady!**
† that both cases have **a RESEMBLANCE to the religious customs of the North German tribes.**
The only place **of slight SIMILARITY to PNG** is Kakadu
Another major problem is **the rising RATE of unemployment,**
There were **a few EXCEPTIONS,**
and discharges all the water into the Gulf of Mexico at a **RATE** of 17,000 cubic metres per second.
The rivers are **a MEANS of transport and communications**
but grows to **a HEIGHT of 3 metres**
There are trees that grow to 46 meters in **HEIGHT**
and the rooms reconverted back to two classrooms of **equal PROPORTIONS**.
our appetite matches **our SIZE**.

YEAR 8
DESTRUCTION **TOLL**
The death TOLL stands today at 90,856 deaths.
as **the success RATE for treating leukemia** was 15%
that the ice caps were melting at **a RATE of 0.3 per cent a year.**
The video shows **the EXTENT of the damage caused by earthquakes and the reason why**.
as soon as we were out of **the VICINITY of the bank**
From **a DISTANCE**, they could see the Statue of Liberty
Is it worth **the PRICE** for power, fame, glory, nationalism?
The tree hurtled down with **such VELOCITY** that we couldn't escape
In figure (A) it shows the fluid going up to **the same HEIGHT that it is in the cup.**
The Rocky Mountains stretch fom North Alberta and British Colombia southward through the western

United States to Mexico, **a DISTANCE of about 4,800 km.**
which is roughly **the same SIZE as the United Kingdom, Uganda or Romania.**
and attained **a HEIGHT of 1.72 m.**

YEAR 9
this increased to 2,602 churches and chapels by 1871 at **a RATE of 3 churches being completed a week.**
Unfortunately it burnt him into **an evil RESEMBLANCE of a human.**

Ig) PROCESS + CIRCUMSTANCE : THING

C) verb + adverb *(move in circle)*
M) noun *(revolution)*

No instances found in the data

Ih) RELATOR : THING

YEAR 5
to set **the PLACE** (London) and **TIME** (1850)
once «when I let go of my mums hand» another man took up **my mums PLACE**

YEAR 6
As a RESULT they are actually being farmed for meat, fleece, skins and dairy products.
as Joe Byrne Dan Kelly and Steve Hart died as **a CAUSE of it.**
and we will have to find **SUBSTITUTES** for them.
so that they can learn more about **whales' LIFESTYLES.**
and then the Q.L. train would take them to **their DESTINATION**.
Probes have been **our main SCOURCE of information about planets**
- alternative energy SCOURCES e.g. electric trains, buses and cars
so the ONLY thing that they could use as **a SORCE of energy** were batteries
Water can also be used as **a SOURCE of energy** itself in many ways
The sun is **the SCOURCE of all energy**.
A circuit is made up of **a SOURCE of energy**, for example a battery with one cable leading off from the positive terminal and another cable which leads off from the negative terminal
by plugging the cable into **the power SOURCE**

YEAR 7
That is **one of the REASONS that we have to keep moving**
In serious **CASES** of cowardice, poor fighting, etc. they were drowned in swamps.
as petrol was found all over **the crash SIGHT**
and inherit her riches in **similar STYLE to her father's evil deed**
LOCATION *[subheading]*
The Sepik and Fly rivers carry most of the water from the highlands in **the wet SEASON**.
The decision was partly made by **the SITUATION of the dunny**

YEAR 8
With my fellow conspirators from the Senate, we plotted **the TIME and PLACE of Caesar's assassination**.
[cf next line: We had debated on where we should kill him.]
Soon **the POSITION and name of Pompeii** was forgotten
if they look at **ALTERNATIVES** or **COMPROMISES**.
and this is a great opportunity to meet people and **their LIFESTYLES**
It shows **the ENVIRONMENT, HABITAT and CONDITIONS in which animals and humans live in**
When people were asked for **the DIRECTIONS**
In describing **the SETTING**,
At the very beginning he collects three warning in an attempt to see what **the LIMITS** are

YEAR 9
inquiring of **the WHEREABOUTS of Bessie and Pratt.**

Appendix B

II. SHIFT TO 'QUALITY'

IIa) THING : CLASS (OF THINGS)

YEAR 6
Anyone interested in **GOLFBALL finding** should start off with suitable clothing.

YEAR 7
The only possibility it could have been is **ENGINE failure**,
[cf 'when the engine started to fail' earlier in text]
The fire was prevented from burning further houses on Shoalhaven St by **an unexpected WIND change.**
the main changes I have noticed in my time here is that it has changed from **a CEDAR logging area** to a farming community with dairying and wheat products.
and crashed into **the back of a ROAD maintenance truck** which was parked on the side of the road.

IIb) THING : CIRCUMSTANTIAL QUALITY

YEAR 3
I had a bit of trouble at **the start OFF THE RACE**.

YEAR 4
it was near **the End OF THE GAME.**

YEAR 5
After **the collapse OF THE QIN DYNASTY** there were several other dynasties.
One of the legends from the Tang Dynasty is all about a Tang priest who went to India to get the Buddhist scriptures with **the help OF A MONKEY KING.**
The invention OF THE TELESCOPE led him to a whole lot of discoveries about the planets
Also the coluors shows you **the temprature OF THE STAR**

YEAR 6
The air blaster goes on at **the sound OF THE BLANK**.
But that meant **a lot of changing OF THE PASSENGERS AND LUGGAGE**
We are also **a big exporter OF NATURAL GAS**.
endangering the community, and **the shooting OF POLICE TROOPERS AND HOSTAGES.**
At **the end OF THE SESSION** it felt
Towards **the end OF THE DAY**

YEAR 7
to witness **the death OF HER FAMILY**.
There have been many projects to raise funds for **repairs OF THE ROAD.**
Some ceromonies envolved **the killing OF SLAVES**
the only celebrations held would be for a birth, a new cheif, a victory or **a mourning OF SOMEONE WHO HAS DIED TWO YEARS AGO**.
but in other places their are **very distinct changes OF WET AND DRY SEASONS.**
This led to **the collapse OF THE WOODSTOCK SCHOOL.**
as the local dairy suplied by-products such as whey after **the separation OF THE MILK**.
The closing down OF THE BOUGAINVILLE COPPER MINE, for example, was due to rebel movements.
towards **the end OF THE DAY** we search for a sage and reasonably comfortable place to sleep.
Oh how I rejoiced at **the sight OF HIS GUTS were spilling everywhere**
Sixteen of the twenty motorcyclists were out in **the beginning OF THE RACE** because of a major collision.

YEAR 8
All I could hear was **the spinning OF TYRES** and the sound of guns,
These were produced by **the** *[draft #1: erupting]* **eruption OF MT. VESUVIOUS.**
and it involved **the** *[notes: remodalization]* **remodaling OF STONEHENGE.**
These atrocious results are coming from **the hunting OF WHALES** for consumer products (perfumes, oils, meats).
then turned fantasy with **the introduction OF THE GENERAL AND THE OLD IRON WOMAN**
The setting changes quite often due to **the movement OF THE CHARACTERS** during the marathon.
and prevented **the killing OF MANY MORE SOLDIERS AND PRISONERS.**
that the Romans believed in **the survival OF THE DEAD.**
Towards **the end OF THE WAR** «when the Japanese were thinking of surrendering» the Americans dropped the first ever atomic bomb on Hiroshima.
Towards **the end OF WORLD WAR II (WWII)**, the Japanese had been slaughtering the prisoners in most cruel ways.
and was considered a bit weird at **the beggining OF THE STORY.**
Early Sunday morning a baker was woken from his sleep by **the smell OF SMOKE AND CRACKLING TIMBER.**
When the Viet Minh had beaten the Japanese with **the aid OF THE UNITED STATES**,

† In 1891, E Dubois made **a startling discovery OF SOME FOSSIL SPECIMENS OF A SKULL AND THIGH BONE**.
Therefore seeing **the change IN TECHNOLOGY** meant to Abigail **a change** in time.
Over time, however, with **great encouragement FROM DOUBLEDAY PRINTERS** he managed to make his first bestseller, Carrie.
† and every now and then you would be able to catch **a glimpse OF HER BRAIN**.
Soon **the position and name OF POMPEII** was forgotten.
Germination is **the restarting OF GROWTH** by the embryo inside a seed.
Garraty meets a few people before **the beggining OF THE WALK**
how he had seen **the end OF THE RACE**

YEAR 9
Also due to **the influx OF MANY MIGRANTS,**
the trading OF RUM
thus making the policy one of the major contributors to **the breakdown OF THE RUM REBELLION**!)
Martin Cash's most notable crime was **the shooting OF CONSTABLE WINSTANLEY.**
What followed could see **the changing OF DRESS ATTIRE** at school.
The construction OF THE RAILWAY expanded the suburbs and the need for houses.
With taller buildings came **the introduction OF PASSENGER LIFTS - a bliss of the modern shopper.**
I apprehended her with **the help OF THE LOCAL POLICE**
In **the beginning OF THE PLAY** Bassanio asks for **a loan FROM ANTONIO**.
to cope with **the increase OF THE POPULATION.**
The other factor for **this increase IN CHURCHES** was that so many different nationalities had come out
Many fires caused **a change IN THE BUILDING MATERIALS**.
Today I was able to control Raja under **the deterant OF GUNSHOTS**.
I will discuss **his changes IN HIS CHARACTER** in the light of one of the major themes in the play - reasoning and emotion.
It is not until **the end OF THE BOOK** that the two stories come together.
Abigail's feelings towards her mother change from **a dislike and misunderstanding OF HER MOTHER** to sorrow and regret for not helping her.
Slake Aremis is **a reject OF SOCIETY**, neglected by his family and constantly hounded by gangs of bullies.
The main criticism OF HIM was the ever increasing expenditures on the colony.
inquiring of **the wherebouts OF BESSIE AND PRATT.**

IIc) THING : POSSESSOR (OF THING)

YEAR 3
and **IT'S crying** reached the ears of the feared sailors.

YEAR 4
HIS appearance is very nice with short straight fur.

YEAR 5
THEIR hospitality is +A1
and she didn't take any notice of **CHINA'S huge misery**.
THEIR enthusiasm is high
[I plan
to reach the spice islands ...
The King of Spain wasn't interested in **MY plans**.
because it is one way of registering **the GOAT'S identity**.
HIS main responsibility is to bring things together

YEAR 6
While he is on **HIS visit**
and made more discoveries before **HIS death**.
But really the special effects man is faking **HIS death.**
he was later kicked out of the police force because of **HIS reputation for lying.**
After **MT. BUFFALO'S reputation** had spread overseas
HIS ambitions are to race at carnivals
Personal definition: **MY personal definition of a lever** is something that can prise up something
and then the Q.L. train would take them to **THEIR destination**.
so that they can learn more about **WHALES' lifestyles**.
Probes have been **OUR main scource of information about planets**

YEAR 7
She was also looking at the freshly dug fields which showed signs of **MY toil and labour**.
as they needed to confirm about **ELIZABETH'S death.**
and have explained **ITS use in the nineteenth century.**
so I'll refresh your memory about the sorts of things that have happened since **OUR arrival in Jamberoo.**
Even though the people are rejoicing at **the thought of GORBACHEV'S resignation**
It was **MY superb cooking and housekeeping** which had lured Elizabeth into my clutches.
OUR first thought was to settle in.
and confirmed **ROSS' beleif that the Anopheles mosquito carried human malaria.**
MY thoughts: Ecology is the study of homes or habitats.
I have recently read your article in the "Sunday Times" about **YOUR GROUPS discovery/research on "Pete Marsh".**
that **YOUR findings about "Pete Marsh"** are similar to that of **MY findings about "Tollund man".**
the ending was good with the fact that **ALL THE PEOPLES fears** were gone
I mumbled **MY reply**.
the street had managed to re-establish **IT'S losses**,

YEAR 8
and outline **THEIR importance in history.**
but when she sees the reality of **the CREEK'S cleaness**
he still tries to keep **HIS goodness**
that it is **THEIR fault**.
ITS length to be approximately 5,000 km.
- donated by France to America for **HER acceptance of migrants**
On **THEIR return**, they set off for the Empire State Building, once the tallest building in the world.
With my fellow conspirators from the Senate, we plotted the time and place of **CAESAR'S assassination.**
Early Sunday morning a baker was woken from **HIS sleep** by the smell of smoke and crackling timber.
forcing children to receive **THEIR early education** at home either from their parents or from a tutor

(wheat is now **one of AUSTRALIA'S major exports**!)
On **HIS return to the prison** he met Lawrence Kavenagh and George Jones
and had the police double **THEIR searches for the gang's hideout.**
It was in **HIS search for Bessie** that he stopped into the Bluebells of Scotland Inn.
Slake in one of **HIS escapees from a gang** runs into the subway
ABIGAIL'S feelings towards her mother change from a dislike and misunderstanding of her mother to sorrow and regret for not helping her.
GWENDA'S feelings towards people are that of defiance and insecurity.
MY feelings about the story are ambiguous.
it is that of the people, the crowds and **THEIR reactions to the walkers.**
and give me **YOUR oppinion on it**.
and goes on **HIS quest to find back his inheritance**

YEAR 9
HIS ranking, **bravery**, leadership, all led him to become one of the greatest governors Australia has ever had.
Martin Cash felt concern for **BESSIE'S safety**
From these two encounters, **SLAKE'S confidence** grows.
On **MACQUARIE'S arrival in England** he was already a thing of the past.
The main factor for the constant criticism is due to **MACQUARIE'S mismanagement** and his policies.
to investigate **MACQUARIE'S administration.**
Upon **HIS arrival at home** he told his father all that had happened.
PORTIA'S use of clever logic helped to overcome Antonio's predicament
as you can write/ say **YOUR OWN experience.**
The good points about the book is it shows **ADRIANS thoughts** exceptionally well
OUR concern for Antonio heightens
The priory preaches **IT'S beleifs**
The man in the turban, another regular, represents **SLAKE'S mistrust** and fear of people, his anxiety and his paranoia.
this being due to **HIS medical knowledge**.
and shows **HIS opinion of the things that happen around him**
In the play Antonio let **HIS emotion** overule **HIS judgement**,
thus causing Shylock to let **HIS judgement** overule **HIS emotions**,
and asking of **HIS well being**
It was at this point that Martin Cash built up **HIS reputation of being a gentlemanly bushranger**.
when he agrees readily to **SHYLOCK'S apparently "jovial" suggestion that Antonio forfeit a pound of flesh**
THEIR protest however had no effect on Mr. Scruton

IId) PROCESS : QUALITY

YEAR 2
that Wayne Gardener had **a fire POWERED engine**
and we got **BLESTING feet** and **BLESTING hands**

YEAR 3
and it's crying reached the ears of **the FEARED sailors**.
*[cf draft #2: and it's crying reached the ears of the **fearful** sailors]*

YEAR 4
that we don't get **a HUSTLING and NOISING city** in the future.

YEAR 5
and gave power to **their TRUSTED servants**.
they would dream of what we've got now, for example space to move, fresh air, small population, **MODERNIZED transport**, freedom to choose, ownership of cars and houses and a higher salary.
The arrowheads were made out of **CHIPPED stone**
there were **several fascinating stone CARVED animals** and guards.
The first emperor was **a crual, cold-blooded, FRIGHTENING person called "Qin Shi Huang Ti"**.

YEAR 6
to turn **the MOISTURISED pulp** into paper form.
and had **the FINISHED product**.
After the alert I will go on to some solutions such as **RECYCLED paper**
RECYCLED paper may not be the best
and making them become **ENDANGERED species**
that sport wasn't **a GARANTEED way of staying alive** in WWI.
which was **a FATAL shot.**
which proved to be **a FATAL shot.**
or sleeping in a tent in **a PROTECTED area**,
but instead he is actually in hell with **a TOWERING Albert Jenkins**
"Basketball is one of **the most fastest GROWING sports**"
and not only the biggest but **the most DEVASTATING *[oil spill]*** as well
it is crucial we keep **the REMAINING 25% of our rainforests**.
Cassowaries are **FLIGHTLESS birds**.
the MILKING goats have a larger number than the other classifications
[Goats that are being bred for skin, fleece and dairy products need more food than a wild goat.
The BRED goats need to have a feed in the morning, midday and later on at night
PROCESSED uranium in rods are used in a nuclear reactor
The circuit TESTER pen looks similar to a screwdriver
some INTRODUCED pests (foxes, rabbits, lantana, etc) would not be here
*[In Kalgoorlie W.A. Mike and John **have been mining for gold** for about eight years.*
During those eight years **the gold MINING sight** has changed alot not only with machinery but also with the population.
[When one balloon was popped, the end holding the remaining balloon dropped ...
whereas **the POPPED balloon** only had the weight of the rubber.

YEAR 7
demolishing the rest of the houses, shops and **part of the newly CONSTRUCTED "handsome Hotel"**.
and the flames victims were **the REMAINING shops on terralong street**.
The fire was prevented from burning further houses on Shoalhaven St by **an UNEXPECTED wind change**.
BURNT OUT buildings in Kiama:
for not providing them with **a RETICULATED water supply** and **WELL-EQUIPPED fire brigade**.
but instead he was dead from **a FRACTURED skull**.
the punt was turned around by **the STRONG MOVING current**.
we came out on The Earl of Durham in 1939 - **a TIRING voyage**
and today Jamberoo is **a HUSTLING and THRIVING village**.

the main changes I have noticed in my time here is that it has changed from **a cedar LOGGING area** to a farming community with dairying and wheat products.
there is still **the DEVASTATING crisis** with the economy and political issues
and crashed into **the back of a road MAINTENANCE truck** which was parked on the side of the road.
The newly MARRIED couple were coming back from their honeymoon in Victoria
I was paralyzed by the sound which had just hit my ears, **the UNMISTAKEBLE voice of Aunt Agatha Augustus and Uncle Urvine Urine**.
It wasn't just dumplings and crackle and turkey and all that but **Vodka SOAKED corn** dark brown bread **extremely SPIKED gerkins** and a number of other delacasies as they called them.
Peter was caught in the middle of a pool of **THRASHING BUBLING water**.
yet not **sea BREATHED air**
It was her car unmistakably by **the soft little HUMMING sound it made**.
She was also looking at **the freshly DUG fields** which showed signs of my toil and labour.
By the time she had arrived at **my little wooden, WARPED porch**,
followed by a meat pie and a dessert of **home MADE caramel fudge**.
And the footprints that we found in **the freshly DUG earth** were the equivalent of two people's weight - or a very large lady!
which was vegetable soup consisting of **HARD TO FIND seeds** - a special last meal?
it looks rather like **a BOMBED battlefield**.
In **the LOWLYING country** is found pitpit,
consisting of **THATCHED huts**
The RESCUE teams have been extremely helpful with food and shelter.
Abigail is portrayed to us in the first chapter as a girl in her teens with brunnette hair scraped back along with **DEEP SET black eyes** which acompany a stiff thin board like body.

YEAR 8
Early Sunday morning a baker was woken from his sleep by the smell of smoke and **CRACKLING timber**.
Conclusion: The importance of the Vietnam war in history is that it turned Vietnam from **a foreign CONTROLLED country** into an independent, communist country.
I saw Steve towering over me with **a blood-SOAKED cloth**
and the surrounding scenes started to change from the dirty, **petrol smelling** garage to what seemed to be **a putrid STINKING dark backstreet alley**.
And where was **the noisy, HONKING traffic speeding along George St**.?
as that was the only available cover from **the IMPOUNDING guns**.
It was **a DESERTED ghost town.**
by causing **IRRITATED eyes** and sore throats.
We are extremely lucky to live in **such an UNPOLLUTED area** in Kiama
A) If take **an INFLATED balloon** up a mountain
B) Taking **an INFLATED balloon** down a mineshaft
The major part in a barometer is **the SEALED OFF air**
and make it **a SEALED container**
The major part in a barometer is **the SEALED OFF air chamber**.
creating **INCREASING air pressure**.
or contract in our day to day range of temperatures or **constant CHANGING pressure.**
when a complex waterway system was installed to take the floodings from **all the MELTING snow and spring rains**.
which arose from **the WARRING tribes** and the need for protection.
The RECOMENDED serving is about 200 g at the least every day.
The RECOMMENDED daily intake is about 200 grams per day.
and eventually they had **a whole FOSSILISED skeleton**.
The characteristics of Java man were; Heavy eye brow ridges, a very thick skull, large palate, **massive OVERLAPPING canines**.
They prepare for **the ONCOMING guards**,
The conditions needed for proper germination are oxygen water and warmth along with **self PRODUCED energy**.
by the Colorado River taking **the WINDING path**
ESTIMATED length is approximately 2,000 km. *[cf previous paragraph: I would estimate its length to be ..]*
Sculptures were generally of **WELL KNOWN figures**
because the muscles aren't developed into **strong WORKING muscles**.

along with looking for **LOST relatives and friends**
It is made up of **STANDING stones**.
In 1891, E Dubois made **a STARTLING discovery of some fossil specimens of a skull and thigh bone**.
The video showed us many examples of **the EVER-INCREASING problems of pollution and extinction that is facing us today**.
It is **a life SUPPORT system** for **every LIVING thing on this planet**.
The smog appeared in the 1940's due to **the INCREASING number of cars**.
We are never quite sure of **the DIVIDING line between reality and fantasy**.
The horse DRAWN cart comes along with candles mounted
a bar of BURNING wood collapsed
The type of setting that is created is one of **DAZZLING lights** ("Flash bulbs popped and dazzled"), and awe.
then it turned to **PELTING rain.**
Then **an EAR-SPLITTING crack**
Smack as its branches continually whacked us with **TORMENTING pain**.
The DEATH toll stands today at 90,856 deaths.

YEAR 9
and changed from **foul SMELLING dirt tracks** to **ORGANIZED PAVED towns**.
The streets were named after political figures and **names of RESPECTED people**.
The main criticism of him was **the ever INCREASING expenditures on the colony**.
who apprehended **the UNSUSPECTING Cash**.
For the formation of coal **the DECAYED plants** go through a special process in which there is no oxygen present
and add **their ROTTING remains** to the peat beneath.
The Dragline then removes **the LOOSENED overburden**
to remove impurities from **the MINED coal**.
because **fully AUTOMATED processes** still overburnt
Antonio is portrayed in the play as **a compassionate, generous, ADMIRED, BELOVED merchant**,
The priory is like a temple with **it's CRUMBLING pillars, WORN stone steps, PAVED walkway**.
where he finds **a discreet UNUSED room**
and he takes pride in sorting and arranging **his ACCUMULATED possessions**.
This room becomes a symbol of **Slake's GROWING self-esteem**.
and eventually giving **UNUSED clothes** to Slake.
Sound PROOF barriers did nothing for the parts rattling in my engine,
The so called specially PATENTED brace plates that were supposed to give me comfort started moving
to add to **the OVERWHELMING din**
and pay compensation for 10 db of hearing loss in our ears, **FROSTBITTEN toes and hands**,
Following this, Slake becomes **a more TRUSTING person**.
EXTENDED settlement
Her life was not happy with **Mr Clifford, a RETIRED army officer**.
She was sent to gaol for the posession of **STOLEN goods**.
and galloots were positioned along **the WORKING columns** as a deterent

IIe) ASPECT or PHASE OF PROCESS : QUALITY

YEAR 6
Ned is not guilty of **the ATTEMPTED murder of Fitzpatrick**
Charge: **ATTEMPTED murder of Constable Fitzpatrick**

IIf) MODALITY OF PROCESS : QUALITY

YEAR 5
and it is **POSSIBLE** that not many people will come to see it.

YEAR 7
Vladimir Vostov, the most **LIKELY** to win the election, said

YEAR 8
it is most **PROBABLE** that the chamber should expand or contract
The **RECOMENDED** serving is about 200 g at the least every day.
The **RECOMMENDED** daily intake is about 200 grams per day.
or contract in our day to day range of temperatures or **CONSTANT** changing pressure.

YEAR 9
He made it **COMPULSORY** for convicts to go to church.
The main factor for the **CONSTANT** criticism is due to Macquarie's mismanagement and his policies.

IIg) CIRCUMSTANCE : QUALITY

YEAR 5
† Have **WEEKLY meetings** with the director
The Chinese cut themselves off from **OUTSIDE knowledge**
a book like this is not my idea of **FUN reading**

YEAR 6
During those eight years **the GOLD mining sight** has changed alot not only with machinery but also with the population.
The gauze bed lets the pulp get rid of any excess water by **a GRAVITATIONAL pull**.
that thousands of **life-SIZE statues** of his soldiers be made to guard his tomb.

YEAR 7
We started planning **our FUTURE life** immediately.
he did **no MANUEL work**.
but the central government is trying to develop **a WORLD WIDE trade**
when it was built, **its ORIGINAL use, CURRENT use** and any major changes.
† when he was having **a MUDbath**
it is actually quite large with **a great CLIMATIC variation.**
Not long after, the school was the victim of **another FIRE attack**, this time on the English block.
The pilot aged 20 from Clare in South Australia was doing **a CROSS-COUNTRY training flight**
It wasn't just dumplings and crackle and turkey and all that but **VODKA soaked corn** dark brown bread extremely spiked gerkins and a number of other delacasies as they called them.
We had a scrumptious lunch of vegetable soup consisting of carrots, beans, spinach - all from my garden - followed by a meat pie and a dessert of **HOME made caramel fudge**.

YEAR 8
the bag ladies carrying **their LIFE possessions**
to make **my WEEKLY visit**
The LONG-TERM consequences are still being felt today.
Archeologists have found **some MARINE life**
The range was formed by volcanoes and **MARINE settlement**.
forcing children to receive **their EARLY education** at home either from their parents or from a tutor
The recommended DAILY intake is about 200 grams per day.
from being **BORDER LINE extinction**,
by supporting **the CHILDISH actions**.
The illustrations change from cartoons to **REAL LIFE portrayal**.
it is actually quite large with **a great CLIMATIC variation**.
To improve their abilities in **PUBLIC speaking**
what is **the DAILY requirement**?
as the body needs cementing substances and **STRUCTURAL reinforcing**
therefore setting up **a CAREER start.**
Conclusion: The importance of the Vietnam war in history is that it turned Vietnam from **a FOREIGN controlled country** into an independent, communist country.
I saw Steve towering over me with **a BLOOD-soaked cloth**
The conditions needed for proper germination are oxygen water and warmth along with **SELF produced energy**.
The video showed us many examples of **the EVER-increasing problems of pollution and extinction** that is facing us today.
The HORSE drawn cart comes along with candles mounted

YEAR 9
This was what Lachlan Macquarie did as the fifth governor of NSW, during **the longest period of ONE-MAN rule in Australian history**.
but his sentence was reduced to **LIFE imprisonment.**
This judicious behaviour undoubtedly saved him from **a DEATH sentence**.
where in **the ENSUING fight** Martin Cash shot Constable Winstanley through the left breast.

after carrying my possession for what seems like **an ENDLESS trek.**
after more than a year of **CONTINOUS mining and panning**. *[without a break?]*
and after **a long MENTAL battle** he goes to the cages.
The battle is still continuing with **VERBAL abuse** etc.
who started making **WEEKLY visits**.
Irving had **an UNTIMELY death** on 3rd September, 1795.
so that **the BACTERIAL decay** can transform the plants into peat.
adding to **the INTERIOR heat**.
as **the MASS production technique** was perfected
this being due to **his MEDICAL knowledge**.
TOUCH identifiable switches needed a forceful punch
Exclusives consisted of the rich who had **no CONVICT taint**
The main factor for **the CONSTANT criticism** is due to Macquarie's mismanagement and his policies.
Despite **EXTENSIVE research** further information was not found.
† Soon Martin Cash started making **SECRET visits** to her
The main criticism of him was **the EVER increasing expenditures on the colony**.
SOUND proof barriers did nothing for the parts rattling in my engine,

IIh) RELATOR : QUALITY

YEAR 9
where in **the ENSUING fight** Martin Cash shot Constable Winstanley through the left breast.

Appendix C

III. SHIFT TO 'PROCESS'

IIIa) CIRCUMSTANCE : PROCESS

YEAR 4
I **would PREFER**

YEAR 5
But Egypt had made the first **t**hing that **RESEMBLED** paper hundreds of years

YEAR 6
and normally **PREFER** rocky and hard places
Some of the arguments they had **CONCERNED** their lives
*[cf Year 5: This project **is about** what I discovered about Chinese history from one of the earliest remains ever found up to the present time.]*
But Egypt made the first thing that **RESEMBLED** paper hundreds of years before China even thought about it.

YEAR 8
EMERGING from the subway station,
Then suddenly the crowd **DISPERSED**.
as the air pressure **DECREASES**
and the general **RETREATS**.
But his scrawny old uncle Ebenezer **OCCUPIES** the inn that David is to inherit - the House of Shaws

YEAR 9
He endeavoured **to SUBSTITUTE** beer
to REPLACE the one that was built by Macquarie.
he would have to find something that **would have SUBSTITUTED** for real currency.
and had the police **DOUBLE** their searches for the gang's hideout.
ABSCONDING a second time
after I had **RECOVERED**
This further **INCREASED** over the next five years to 5 churches a week.
Antonio **REGAINS** some dignity, control,

IIIb) RELATOR : PROCESS

YEAR 2
I **MADE** everyone scream.

YEAR 4
we **GOT** some one to be blindfolded

YEAR 5
but this expansion **LED TO** too much responsibility
but that **DEPENDS** on how quickly we use it.
That **MEANT** that the director had to take that persons place or another actor who wasn't acting for a while
so that **MEANS** that the actors can get used to the costumes more quickly
DEPENDING on how you do it.
The price **DEPENDS** on the condition of the golfball and colour,

YEAR 6
This **MEANT** that one train could not cover all the distance from Victoria to Queensland in one go
[because the conditions of the Nullabour Plain were hot, sticky and treeless
which **MADE** it hard to do the job.
The invention of the telescope **LED** him to a whole lot of discoveries about the planets, the stars and our solar system.
which **LEADS** to many more wild adventures

YEAR 7
CAUSING it to run out of fuel.
FORCING the pilot to jump.
CAUSING Robert to plummet down to his death.
BEING smart
which **RESULTED** in claiming the lives of seven people at the mouth of the Minnamurra River.
and that **MEANT**
that the cultures and language developed differently from other places.]
[but now there is lino
MAKING for easier sweeping and wiping up.
CAUSING expansion and contraction.
CAUSING us a big inconvenience
This **LED TO** the collapse of the Woodstock school.
FOLLOWED by a meat pie and a dessert of home made caramel fudge.

YEAR 8
Won the 1902 Nobel prize for physiology or medicine for work that **LED TO** the discovery of how to combat malaria.
CAUSING the smog to be trapped.
by **CAUSING** irritated eyes and sore throats.
MAKING the balloon able to expand
CAUSING the balloon to contract
MAKING the fluid come up,
FORCING children to receive their early education at home either from their parents or from a tutor
which **LED TO** a big excavation
CAUSING the smog to be trapped.

YEAR 9
CAUSED import duties of liquor to rise
This **CAUSED** the need for more roads and bridges
CAUSING them to send commisioner J.T. Bigge to the colony

This **CAUSED** Macquarie to be irrelevant and an embarrassment to the colonial office.
This is probably what **CAUSED** her to be captured.
which **CAUSED** him to become an alcoholic.
[and this] **CONTRIBUTED** to more expensive buildings being built.
Many fires **CAUSED** a change in the building materials.
FOLLOWING that he became a constable and a night watchman.
thus **CAUSING** Shylock to let his judgement overule his emotions,
His ranking, bravery, leadership, all **LED** him to become one of the greatest governors
Australia has ever had.
thus **MAKING** the policy one of the major contributors to the breakdown of the rum rebellion!)

IIIC) PROCESS TYPE A : PROCESS TYPE B

YEAR 3
and it's crying **reached** the ears of the feared sailors

YEAR 7
I was paralyzed by the sound which had just **hit** my ears, the unmistakeble voice of Aunt Agatha Augustus and Uncle Urvine Urine.
when my eyes **fell** upon the only photo that I ever owned of my dearest parents.
which made us **fall** upon a large camping pot which had small dints on the side

YEAR 9
What followed could **see** the changing of dress attire at school.